UNIVERSITI PUTRA MALAYSIA

POLITICAL TRANSITION AND DETERMINANTS OF LIQUIDITY CREATION IN MIDDLE EAST AND NORTH AFRICA COUNTRIES

NAGEA S B ABRAHEEM

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POLITICAL TRANSITION AND DETERMINANTS OF LIQUIDITY CREATION IN MIDDLE EAST AND NORTH AFRICA COUNTRIES

By

NAGEA S B ABRAHEEM

Thesis Submitted to Putra Business School, in Fulfilment of Requirements for the Degree of Doctor of Philosophy

July 2020

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DEDICATION

"And they ask you about the Sprit. Say: "The Spirit by command of my Lord: and you are not given aught of knowledge but a little."

(Al-Quran AlKareem, Surat Al-Israa, 85)

This thesis is dedicated to

My parents

Who have always been my epitome of strength

My Husband

Who has been very understanding and patient

My Kids, My Family, My Friends

I am really grateful to you all!

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

POLITICAL TRANSITION AND DETERMINANTS OF LIQUIDITY CREATION IN MIDDLE EAST AND NORTH AFRICA COUNTRIES

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July 2020

Chairman : Mohamed Hisham bin Dato Haji Yahya, PhD
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Political transition is one of the political risks that can lead towards discontinuity in economic activities. Unsurprisingly, political transition (Arab Spring) in the MENA region has affected its economy. The banking sector, being a crucial element in the financial system, is not spared. Liquidity creation is one of the main functions of banks that can be affected by various factors. This study aims to examine the impact of political risk, bank-specific factors, banking industry factors and macroeconomic factors on liquidity creation; vis-a-vis political transition (Arab Spring). Bank type (*i.e.* Islamic or conventional), availability of deposit insurance system and bank size were included as control variables in this study. The study sample included 55 Islamic and conventional banks from Arab Saudi, Bahrain, Egypt, Jordan, Kuwait, Lebanon and Tunisia for the period between 2006 and 2015. In the period of pre-political transition, the findings revealed a positive relationship between liquidity creation and political risk, indicating that political instability diminishes liquidity creation. However, bank capital, stability of bank, competition, stability of banking industry, unemployment and economic growth, negatively influenced liquidity creation. For the period of post-political transition, similar results were estimated regarding liquidity creation relationship with political risk, stability of bank, stability of banking industry and unemployment. Nevertheless, the findings in the post-Arab Spring period were in contrast with the results of pre-political transition regarding the liquidity creation relationship with competition and economic growth. Moreover, in the period post-political transition, bank capital has no effect on liquidity creation, while non-performing loans positively influenced liquidity creation. It was notable that there was no difference between the results for Islamic and conventional banks. Also, the availability of deposit insurance system reduced liquidity creation in both periods. This study provides a new perspective on the relationship between liquidity creation and political risk. It extends the empirical and theoretical aspects of research and offers more comprehensive and empirical views on how liquidity creation is influenced by banks' specific factors, banking industry factors and macroeconomic factors in pre-

and post- political transitions. The findings can provide early warning of risks that banks are likely to face in liquidity creation. Regulations should focus on banking supervision quality by adopting policy measures that increase competition and maintain banks' stability.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

PERALIHAN POLITIK DAN PENCIPTAAN PENENTU KECAIRAN DI NEGARA TIMUR TENGAH DAN AFRIKA UTARA

Oleh

NAGEA S B ABRAHEEM

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Peralihan politik adalah salah satu risiko politik yang boleh menyebabkan terbantutnya aktiviti ekonomi. Tidak mengejutkan, peralihan politik (*Arab Spring*) di wilayah MENA juga telah mempengaruhi ekonominya. Sektor perbankan, yang merupakan elemen penting dalam sistem kewangan, tidak terlepas. Penciptaan kecairan adalah salah satu fungsi utama bank yang boleh dipengaruhi oleh pelbagai faktor. Kajian ini bertujuan untuk mengkaji kesan risiko politik, faktor khusus bank, faktor industri perbankan dan faktor makroekonomi terhadap penghasilan kecairan; *vis-a-vis* peralihan politik (*Arab Spring*). Jenis bank (iaitu Islamik atau konvensional), ketersediaan sistem insurans deposit dan saiz bank dimasukkan sebagai pemboleh ubah kawalan dalam kajian ini. Sampel kajian ini merangkumi 55 bank Islamik dan konvensional dari Arab Saudi, Bahrain, Mesir, Jordan, Kuwait, Lebanon dan Tunisia untuk tempoh antara tahun 2006 dan 2015. Dalam tempoh pra-peralihan politik, penemuan kajian ini menunjukkan hubungan yang positif antara penghasilan kecairan dan risiko politik, menunjukkan bahawa ketidakstabilan politik mengurangkan kecairan. Walau bagaimanapun, modal bank, kestabilan bank, persaingan, kestabilan industri perbankan, pengangguran dan pertumbuhan ekonomi, mempengaruhi penciptaan kecairan. Untuk tempoh pasca-peralihan politik, keputusan yang sama dianggarkan berkaitan hubungan penghasilan kecairan dengan risiko politik, kestabilan bank, kestabilan industri perbankan dan pengangguran. Walaupun begitu, penemuan dalam tempoh pasca-*Arab Spring* berbeza dengan hasil peralihan pra-peralihan politik dalam hubungan antara penghasilan kecairan dengan persaingan dan pertumbuhan ekonomi. Lebih lagi, dalam tempoh pasca-peralihan politik, modal bank tidak mempengaruhi penciptaan kecairan, sementara pinjaman tidak berbayar mempengaruhi penciptaan kecairan. Perlu diperhatikan bahawa tidak ada perbezaan dalam hasil kajian untuk bank Islam dan konvensional. Juga, ketersediaan sistem insurans deposit mengurangkan penghasilan kecairan dalam kedua tempoh tersebut. Kajian ini memberikan perspektif baru mengenai hubungan antara penciptaan kecairan dan risiko politik. Ini memperluaskan aspek penyelidikan empirikal dan

teoritis dan menawarkan pandangan yang lebih komprehensif dan empirikal mengenai bagaimana penciptaan kecairan dipengaruhi oleh faktor khusus bank, faktor industri perbankan dan faktor makroekonomi dalam peralihan sebelum dan selepas peralihan kuasa politik. Penemuan ini dapat memberi amaran awal mengenai risiko yang mungkin dihadapi oleh bank dalam penghasilan kecairan. Peraturan harus memberi tumpuan pada kualiti pengawasan perbankan dengan menerapkan langkah yang dapat meningkatkan persaingan dan menjaga kestabilan bank.

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I would like to take this opportunity to express my appreciation and gratitude to the chairman of my supervisory committee, Dr Mohamed Hishan Bin Dato Haji Yahya for his valuable suggestions, superb guidance, discussion and patience throughout the study duration. His help, constructive comments and suggestions throughout the study have contributed greatly to the success of this research. Sincere appreciation goes to Associate Professor Dr. Nazrul Hisyam Bin Ab Razak, Dr. Junaina Binti Muhammad for their valuable information and cooperation throughout this research.

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Finally and most importantly, I would like to express my sincere and warmest gratitude to my beloved mother Fatema Altareki, my sisters and brothers, friends for their prayers, love, and generous moral support during my study.

I certify that a Thesis Examination Committee has met on 27 July 2020 to conduct the final examination of Nagea S B Abraheem on her thesis entitled " Political Transition and Determinants of Liquidity Creation in Middle East and North Africa Countries" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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This is to confirm that:

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LIST OF ABBREVIATIONS

BCONC	Concentration of banking industry
BSIZE	Bank size
CAP	Bank capital
CPI	Inflation
GDP	Gross Domestic Product growth
INZSR	*Stability of banking industry*
LC1	Cat fat Liquidity Creation
LC2	Cat non-fat Liquidity Creation
LC3	Alternative measure of Cat fat liquidity creation
LC4	Alternative measure of Cat non- fat liquidity creation
LERNER INDEX	Market power
MENA	Middle East and North Africa
NPLs	Bank's Nonperforming loans
PRISK	Political Risk
UNEMP	Unemployment
Z-SCORE	Bank stability

CHAPTER 1

INTRODUCTION

This chapter commences with the explanations on the banking system in MENA countries, followed by background of the study. It includes problem statement, research questions, research objectives, theoretical framework and significance of study.

1.1 Banking System in MENA Countries

There is no standard definition through which nations are classified as being in the MENA region. As a whole, MENA region includes Morocco in Northwest Africa and extends to Iran in the Southwest Asia and Sudan in Africa. It comprises Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank and Gaza, Yemen, Ethiopia as well as Sudan. In 2011, there were eight OPEC nations from the MENA region that held 60% of the oil reserve and 45% of the total gas reserve in the world.

This region also represents 6% of the world population. MENA is regarded as an important region for the world's economic stability as it is rich in petroleum and gas reserves. The region is located between the West and Asia, which gives it a strategic location. A country's financial system consists of financial markets, banks, insurance companies, mutual funds, pension funds, market infrastructure, central banks as well as their regulatory and supervisory authorities. These institutions and markets support the economic growth by providing the framework for carrying out monetary policies and economic transactions as well as channelling savings towards investments (International Monetary Fund, 2019). Most financial systems are bank-based, such as, in Japan, Germany and developing nations, such as, those in MENA region. This region also represents 6% of the world population. MENA is regarded as an important region for the world's economic stability as it is rich in petroleum and gas reserves. The region is located between the West and Asia, which gives it a strategic location. A country's financial system consists of financial markets, banks, insurance companies, mutual funds, pension funds, market infrastructure, central banks as well as their regulatory and supervisory authorities.

These institutions and markets support the economic growth by providing the framework for carrying out monetary policies and economic transactions as well as channelling savings towards investments (International Monetary Fund, 2019). Most financial systems are bank-based such as Japan, Germany and developing nations such as those in MENA region. Others are market-based like the United States and the United Kingdom (Berger & Bouwman, 2015). Until the middle of the last century, the MENA region was still colonised by France and Britain. As such, the region's financial structure are established based on the Western structure (Turk-Ariss, 2009).

MENA region also has a few important maritime trading routes , such as, the Suez, Hormuz, Bab-el-Mandeb and Gibraltar (Bitar *et al.*, 2016). The banking sector in this region is relatively young as most banks were established in the 1970s and beyond (Olson & Zoubi, 2011). In MENA region, the commercial banks dominate the region's financial sector (Devarajan & Mottaghi, 2014; Eisazadeh & Shaeri, 2012; Ghosh, 2016; International Monetary Fund, 2016; Devarajan *et al.*, 2016; Yusuf, 2014). Meanwhile, other financial institutions' (*i.e.*, mortgage institutions and pension funds) remains small in size. As in most free market countries, any failure in the financial sector would give a massive impact on a country's economic growth. Financial crises cause bank run, financial and economic tribulations (Ongore & Kusa, 2013). The importance of this sector requires maintaining its soundness to be able to perform its intended functions.

1.2 Islamic Banks in MENA Countries

In the early 1970s, Islamic banks emerged and started expanding in the Islamic countries. Naser Social bank was the first interest-free institution established in Egypt in 1970. In the beginning, its objectives were not mainly profit oriented such as providing loans to the poor and needy, students and micro-credits. The United Arab Emirates had the first Islamic bank, Dubai Islamic Bank (DIB), in March 1975. This was followed by the International Islamic Development Bank (IDB) in Jeddah, Saudi Arabia, in July 1975. From there on, private and semi-private Islamic banks were established in Egypt, Sudan, Kuwait and Bahrain (Iqbal & Molyneux, 2005).

The Islamic banking system in this region coexists with its conventional counterparts. According to Islamic financial services board annual reports, the number of Islamic banks' assets has increased in the MENA region, albeit with a slow growth in 2015, as depicted in Figure 1.1. However, macroeconomic challenges appeared to restrain progress in the development of the Islamic banking sector (Islamic Financial Services Board, 2018).

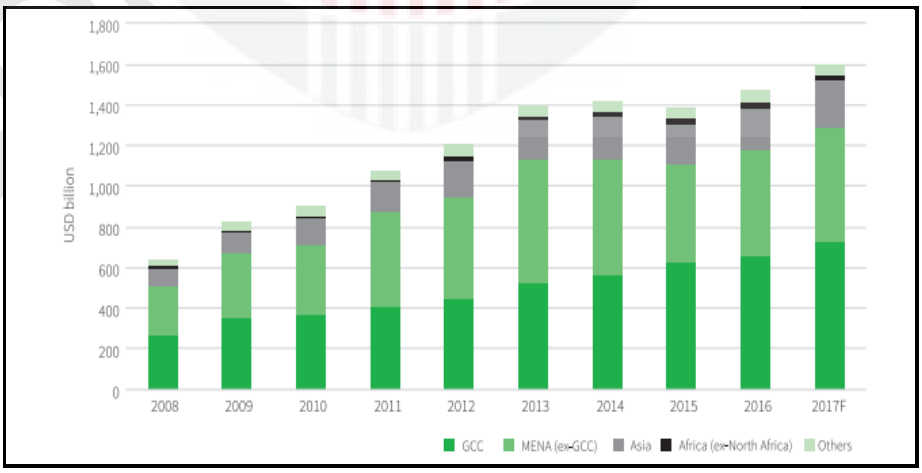

Figure 1.1 : Islamic Banking Sector Growth
("Adapted from Islamic Financial Services Board, Stability Report 2018")

Islamic banks have similar functions like their conventional counterparts. However, Islamic banking draws its principles from the Islamic law known as the Shariah law. Two fundamental principles behind Islamic banking are 1) the sharing of profits and losses and 2) prohibition of the collections and payments interest (Riba). The financial crisis in 2008 had left an impact on banks in the MENA region. However, Islamic banks have attracted attention due to their resilience during that crisis (Smolo & Mirakhor, 2010; Tabash & Dhankar, 2014). Only a small number of banks and investment firms in the MENA countries were affected by losses associated with subprime assets.

1.2.1 Competition in the Banking Sector

One important driver in the banking sector is competition. There has been an increase in global banking asset across the world as depicted in Figure 1.2 below.

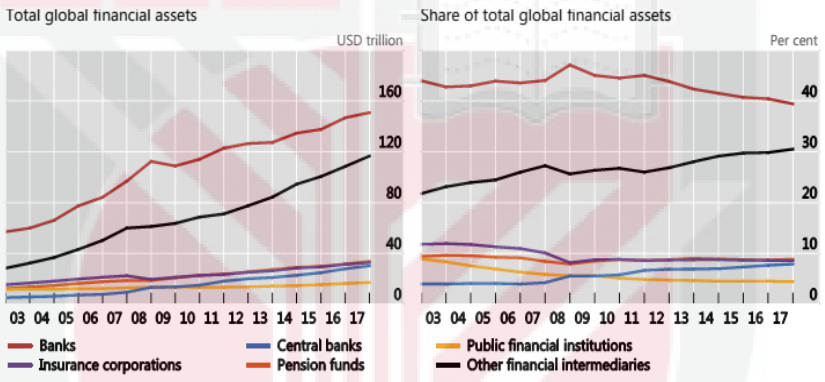

Figure 1.2 : Assets of Financial Intermediaries, 2002-2017
("Adapted from United nation, 2019 based on Financial Stability Board 2018")

In Figure 1.2, it can be seen that banks have the highest amount of financial assets compared to other financial institutions, such as, insurance companies and pension funds. Their total global assets were amounted to $US 124 trillion in 2018. Since then, banks continued to be the largest source of lending. Their share of global loan assets was 81% in 2017 (Financial Stability Board, 2018). With regard to the banking system in MENA countries, it is characterised by low competition with high asset concentration as depicted below in Figure 1.3; depicting the high market power in MENA selected countries, which presents the low competition.

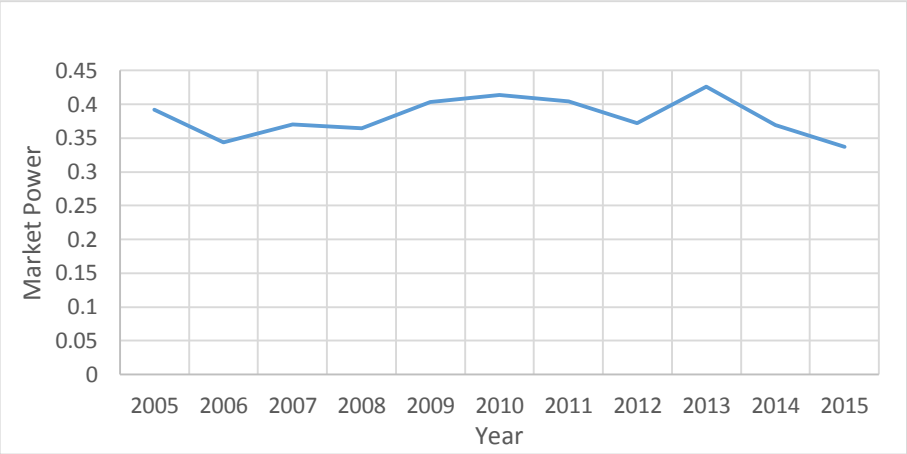

Figure 1.3 : Banking Industry Market Power in MENA Countries
(Source: World Bank data)

Previous studies found that the banking industry in MENA region operates under monopolistic competition (Abuzayed *et al.*, 2012; Anzoategui *et al.*, 2010; Čihák & Hesse, 2010; Turk-Ariss, 2009). Although banks are sizeable, competition in MENA countries remains constrained with significant state ownership, highly concentrated credit and a few well-connected borrowers (Finger & Gressani, 2014). With regards to the banking sector's concentration represented by the shares of the assets of five large banks, the concentration level in most banks in MENA was above 70% for the period between 2005 to 2017 (Figure 1.4). For example, countries like Kuwait, Libya, Syria, Oman and Bahrain possess a concentration level of more than 90%. However, the lowest concentrated banking industry is in Tunisian and Lebanese banks.

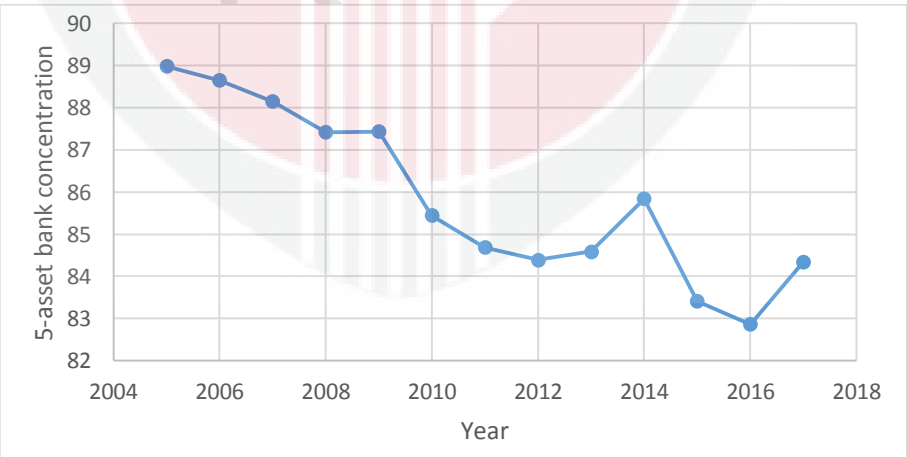

Figure 1.4 : Bank Assets Concentration in MENA Countries
(Source: World Bank data)

1.3 Political Transition in MENA Countries

The Arab Spring consists of violent and non-violent revolutionary demonstrations and protest, which include riots and civil wars. The Arab Spring began in Tunisia on December 17th 2010 and spread throughout the Arab League countries and its neighbours. In Syria, Libya, Egypt, Bahrain and Yemen, there were major insurgencies that led to civil uprising. There were large street demonstrations in Algeria, Iraq, Jordan, Kuwait, Morocco and Oman as well as minor protests in Saudi Arabia (Campante & Chor, 2012; Lotan *et al.*, 2011). The trends of political stability in sampled countries are presented in Figure 1.5 below based on political stability index. Political stability index ranges from the highest (2.5) presenting the lowest political risk to the lowest (-2.5) presenting the highest political risk. Meanwhile, the range of political risk in the MENA region is from 0.62 to -2.1.

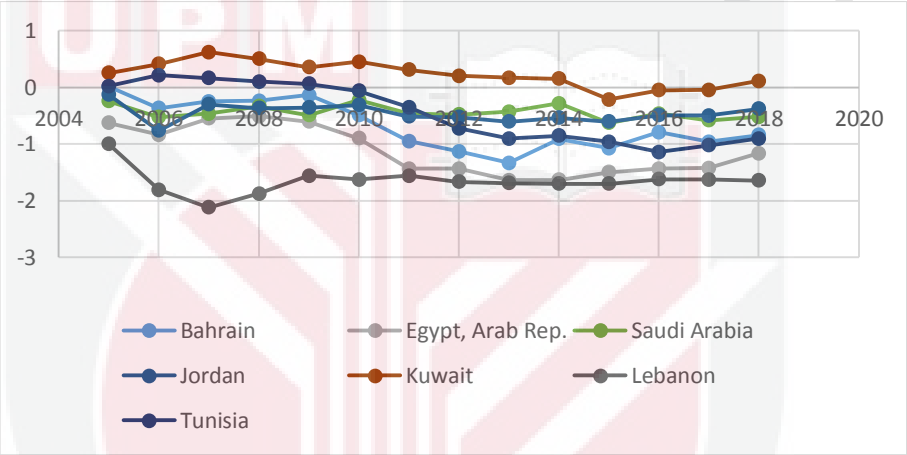

Figure 1.5 : Political Stability for Selected MENA Countries
(Source: The World Bank data 2018)

In the aftermath of the Arab Spring (political transition), international organisations such as International Monetary Fund (IMF), the World Bank, United Nations agencies and regional development banks provided support for the countries affected. The sum of USD 35 billion was made available by the IMF as a broad international effort (Charafeddine & du Liban, 2011).

International Monetary Fund specialists considered this as an opportunity to a) restore confidence to the markets and other lenders, b) provide support to communities and investors, and c) help nations discover sources of extra finances. This can be interpreted as a positive projection for the region's financial system and other sectors by the international community (Charafeddine & du Liban, 2011). However, the deterioration of the average political situation increased as depicted in Figure 1.6. Political stability then further declined after the period of Arab Spring with some countries still experiencing turmoils like Libya, Yemen and Syria. Political unrest in Lebanon and Iraq erupted again, which included the demands for full political change

of the current regimes. This, coupled with acts of violence, further deteriorated the political

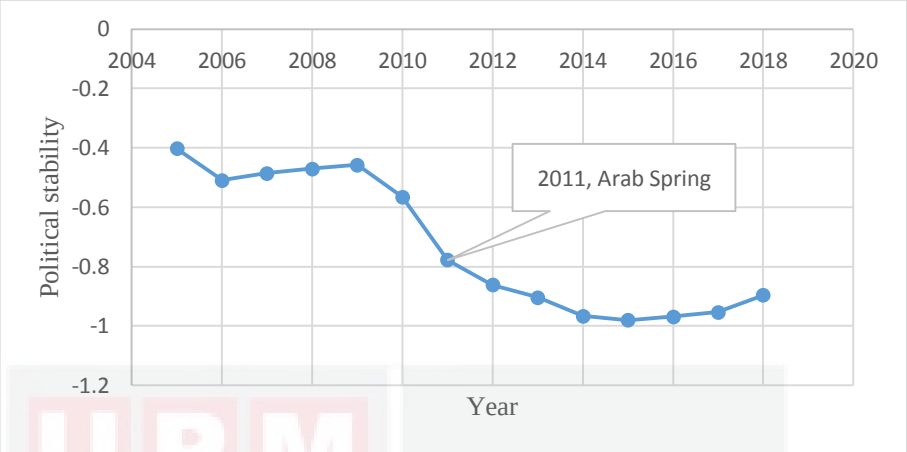

Figure 1.6 : Average Political Stability for Selected MENA Countries
(Source: World Bank data, 2016)

stability in this region in 2019 (Barbuscia, 2019; Turak, 2019). Following years of political uncertainty, there has been shortage of food and other necessities. Infrastructures were damaged, inflation increased as well as fiscal and external positions worsened. There has been a sizable impact on the economy. For example, Syria's *GDP* in 2016 went down to half of what it was before the war. Also, the real *GDP* of Yemen has been estimated by the IMF (2016) to have reduced to 40%.

1.3.1 Characteristics of Arab Spring

According to Winckler (2013), the Arab Spring[1] was peculiar due to three reasons:

a) Political turmoil in the MENA region due to numerous military takeovers since the 1950s (in Egypt, Iraq and Sudan) and 1960s (in Algeria and Libya), followed by regime changes. Previous political disturbances were short and the recovery was quick (not exceeding weeks or months). For example, the 1986 riots in Egypt, the 1989 and 1996 riots in Jordan, the 1990 Iraqi invasion of Kuwait as well as the 2003 US invasion of Iraq. However, the current political crisis in the region has not fully subsided and the political situation has yet to be stabilised.

b) In previous political crises, MENA countries received massive economic assistance to stabilise their economy. For example, Egypt received a large loan from the International Monetary Fund in 1986, as did Jordan in 1996 and Iraq after the 2003 US invasion of Iraq. As for the current crises, the financial and economic support to the region has been very low. This has led to the

[1] Following (Ghosh, 2016) the phrases Arab Spring, political turmoil, political conflicts and political uncertainty will be employed interchangeably in this research

deterioration of the situation and loss of control over the situation in these countries.

c) Previous political unrests prior to Arab Spring were concentrated in one country or a limited region. The current crisis has affected many countries in the MENA region.

d) The current political crisis was the first, which the GCC was not prepared to provide large financial support even to countries that were friendly to GCC. This was reflected in the meagre financial support from of the Gulf Cooperation Council (GCC) to Egypt after the military took control. Arab Spring has economic consequences on the MENA economy.

Prolonged conflict and political instability in the region were among the main factors that contributed to the fiscal deficit and decline in investment and increase in unemployment rate of countries in this region. Moreover, from the financial sector perspective, balance sheet in the domestic banking sector saw a deterioration reflected by the declining quality of loans (increase non-performing loans) as well as local stock markets in the region (Charafeddine & du Liban, 2011). Low economic growth increased unemployment, which is one of the macroeconomic indicators that could influence bank's liquidity creation in most countries (Berger & Sedunov, 2017; Díaz & Huang, 2017; Duygan-Bump *et al.,* 2015; Fidrmuc *et al.,* 2015). The youth unemployment rate in the MENA region is the highest in the world, as depicted in Figure 1.7. For example, in 2017, high youth unemployment rate has been recorded in Palestine (43%), Saudi Arabia (42%), Jordan (36%) and Tunisia (36%) (Kabbani, 2019).

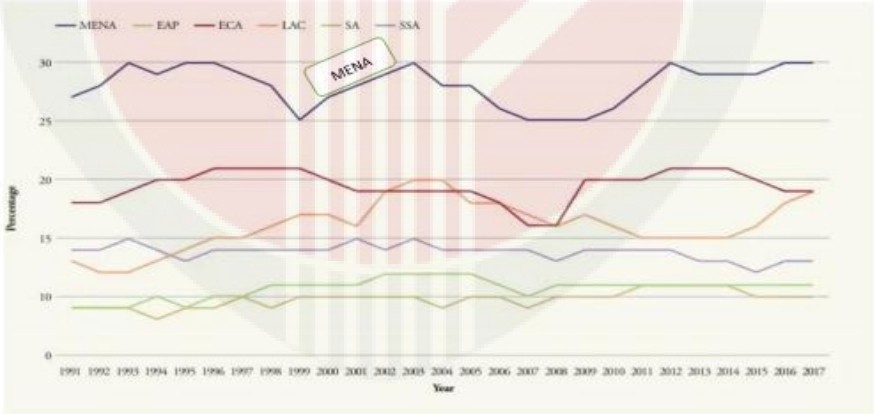

Figure 1.7 : Global Youth Unemployment
("Adapted from Kabbani, 2019")

Other countries in the region that were not affected directly from political transition suffered a significant spill over due to refugee's crisis, which put pressure on their economy through government budgets, public infrastructure and services. Many studies have looked at the impact the Arab Spring on the region, but most of them were focused on the impact of political transition on social and political implications (Karshenas *et al.,* 2014). There were few attempts to reveal the consequences of Arab

Spring from the economic point of view especially the banking sector (Chau *et al.*, 2014; O'Sullivan *et al.*, 2011).

1.4 Background of Study

The banking sector is the heart of the economy. It plays a crucial role in channelling funds to all economic participants. Banks' main roles are to create liquidity and transfer risk. These are jointly known as bank's qualitative asset transformation (QAT) (Berger & Bouwman, 2009; Berger *et al.*, 1995). The 2007–2008 financial crisis brought issues in understanding the challenges faced by banks to manage liquidity risk. Emphasis was put on the importance of adequate liquidity for the smooth functioning of the financial markets and banking sector. Due to the 2008 financial crisis, the Basel III framework was introduced to strengthen capital adequacy, standards of liquidity and resilience of banks through regulatory reforms. This financial crisis plummeted equity markets in the United States, Europe and emerging markets. The role of banks as liquidity providers was itself in crisis (Acharya & Thakor, 2016). Nevertheless, in comparison to other emerging and developing markets, Middle East and North Africa's markets as well as banking sector suffered relatively minor consequences from the 2008 financial crisis.

The increase in oil prices contributed to the rapid recovery of MENA nations post-financial crisis 2008 (Almarzoqi *et al.*, 2015). However, the recent political transition or Arab Spring had given an impact on the economy in this region. Its economic growth, inflation, unemployment rates has been negatively affected (Devarajan & Mottaghi, 2014; Finger & Gressani, 2014; Herrala & Turk-Ariss, 2016; Rother *et al.*, 2016). The banking sector that dominates the financial sector in the region was also affected. The Arab Spring has contributed to profit decline of banks and increase in bank's risk. Even though the impact of Arab Spring on the profits of banks was not substantial, its impact on the solvency of banks was discernible (Bitar *et al.*, 2016; Ghosh, 2016).

Recently, the MENA nations have encountered rapid and capricious growth in credits, which calls for concern with regards to the financial system's stability (Bitar *et al.*, 2016). This was particularly because growth in credit is frequently trailed by financial crisis (Bitar *et al.*, 2016; Crowley, 2008). In addition to these concerns, drying up of external finance due to curtailed international investors' interest in these economies as a result of political instability, made things worse (Neaime, 2012). This may increase the pressure on the markets and banking sector. Banks are expected to create more liquidity, which may be accompanied by several risks that may affect the role of banks in these economies. According to the report issued by International Monetary Fund (2016), the liquidity in MENA countries' financial sector has declined.

Nonetheless, not many studies have been conducted on the Arab Spring that look into its effects in the banking sector in the MENA regions. The importance of the banking sector in every economy cannot be under emphasized. The soundness of banks is crucial (Bougatef & Mgadmi, 2016). This raises the question of the impact of political

and economic challenges on the banking sector's functions, specifically and liquidity creation in this region. The focus in the most studies was on profitability and bank's risk(Bitar *et al.*, 2016; Ghosh, 2016; Sahyouni & Wang, 2019). Liquidity creation is the bank's main function that supports the mainstream economy. It involves the transformation of illiquid assets into liquid liabilities (Diamond & Dybvig, 1983).

1.4.1 Liquidity creation

Banks perform a crucial role by providing liquidity to the economy. This liquidity originates from both on-and off-balance sheet items (Bryant, 1980; Diamond & Dybvig, 1983). On balance sheet items include all assets and liabilities that appear on balance sheet. Assets include for example cash and due from banks, trading assets and loans. Liabilities include for instance current customer deposits, savings, trading liabilities and equity. Liquidity can also be created from off-balance sheets activities (Boot *et al.*, 1993; Holmström &Tirole, 1998; Kashyap *et al.*, 2002).

Off balance sheet items refer to items that are on the balance sheet, such as, loan commitments, credit lines, guarantees, swaps, hedging contracts and securities underwriting (Freixas & Rochet, 2008, Hassan, 1993). These contingent claims or contracts that generate fee income for banks (*i.e.*, loan commitments, committed credit lines and interest rate derivative) do not create a change in the balance sheet until contingency is realised (Hassan, 1993). The focus on liquidity creation became more crucial after the financial crisis in 2008 (Berger & Bouwman, 2015; Fu *et al.*, 2016).

The importance of bank solvency and liquidity creation has been emphasised in Basel reforms issued by the Basel Committee (Berger & Bouwman, 2015; Fu *et al.*, 2016). For instance, in additional to changes in capital adequacy ratio by Basel III (minimum 10.5% for the Tier 1 Capital Ratio), banks are also required to meet the new liquidity requirements, which are the liquidity coverage ratio (LCR) and net stable funding ratio (NSFR). The liquidity coverage ratio is the minimum high-quality assets (*i.e.*, central bank deposits, guaranteed bonds) held by banks divided by expected net cash flow to ensure that a bank can survive a stress scenario lasting 30 calendar days. LCR can restrict bank's loans to reduce bank risk taking (Li *et al.*, 2017). The net stable funding ratio is the ratio that measures the bank's resilience for medium- and long- term calculated by dividing the number of stable findings available to the amount of stable funding required.

The NSFR is aimed at supporting structural changes in the bank risk profiles from short-term funding mismatches and to more stable, longer-term funding of assets (King, 2013). The introduction of new comprehensive liquidity creation measurements by Berger and Bouwman (2009) have encouraged researchers to conduct studies using their measurements to reveal the differences between banks in creating liquidity and other issues related to this role (Al-khouri & Arouri, 2019; Davydov *et al.*, 2018; Díaz & Huang, 2017; Fu *et al.*, 2016; Sahyouni & Wang, 2019). Berger and Bouwman methods calculate liquidity creation based on all items from on-and off-balance sheet and based on only items from on-balance sheet. Their methods are named "Cat

measures" when loans are classified based on category or "Mat measures" when loans are classified based on maturity. Under Cat measures, the calculation of liquidity creation that incorporates all items from on-and off-balance sheet is called Cat fat liquidity creation while the other one that only includes items from on-balance sheet is called Cat non-fat liquidity creation.

Under Mat measures, the calculation of liquidity creation that incorporates all items from on and off-balance sheet is called Mat fat liquidity creation, whereas the one that only includes items from on-balance sheet is known as Mat non-fat liquidity creation. It is crucial to study liquidity creation in this region during this period due to the declining level of liquidity in the financial system and pressure that the banking sector is facing.

Performing liquidity creation may expose banks to risks including liquidity risk (Arif & Anees, 2012; Bouwman, 2014; Chiaramonte & Casu, 2016; He & Xiong, 2012; Imbierowicz & Rauch, 2014). Also, creating too much liquidity can expose banks to risks, such as, credit risk. Regulatory safety net like deposit insurance and government support may not generally ensure a socially optimal policy and can impact the banking sector negatively (Allen *et al.*, 2014; Bouwman, 2014; Hauck & Vollmer, 2013). In addition, the existing safety net is not sufficient at sustaining a synergy between deposit taking and commitment lending during the recent financial crisis (Acharya & Thakor, 2016; Garcia-de-Andoain *et al.*, 2016). It may give rise to moral hazard, which increases bank's risk taking (Bouwman, 2014). The unique characteristics of the banking sector in this region provides an interesting background to study the impact of banking industry factors, political risk on the creation of liquidity by banks.

1.4.2 Islamic and Conventional Banks in MENA

The principles of Islamic finance include prohibiting and avoiding gharar, prohibiting sale with no ownership and the linking of finance and returns with real economy. The existing Islamic banks as well as conventional banks in this region provide opportunities for considering the bank types with regard to liquidity creation, pre-and post-Arab Spring. Islamic banks in the MENA region represent 50% of the world's share as at 2008 (Ali, 2011).

Even though Islamic banks have seen continuous growth, there is no conclusive evidence regarding the extent of their stability during crisis period. Some studies suggested that Islamic banks are more stable and have the ability to cope with the financial crisis. The continuation of their operations is not significantly influenced by financial crises (Ftiti *et al.*, 2013)**.** Islamic banks are more stable during financial crises due to the features of the Shariah-compliant financial products. The mismatch of short term deposits on demand with long term loan contracts is mitigated through equity and risk sharing principles (Gregoriou *et al.*, 2016). In the mist of financial panic in 2008, the Islamic banks were still able provide loans to their clients. Their ability to lend was not substantially affected by the changes that occurred in deposits compared to their conventional counterparts (Farooq & Zaheer, 2015). Interestingly**,** the performance

and stability of Islamic banks were not affected by political instability (Ghosh, 2016). Nevertheless, there are studies that found no significant differences between the extent to which Islamic and conventional banks have been affected by the recent financial crisis. In other words, Islamic banks are not immune against financial crisis (Beck, Demirgüç-Kunt, *et al.,* 2013; Bourkhis & Nabi, 2013; Khediri *at el.,* 2015; Mongid, 2016; Olson & Zoubi, 2017). Moreover, in non GCC countries, Islamic banks are more profitable and efficient compared to those of Gulf Cooperation Council (GCC) countries (Beseiso, 2014).

Beseiso explained that a drastic decrease in the profitability and liquidity of Islamic banks in (GCC) countries after the financial crisis was due to excessive risk taking during the financial crisis. Islamic banks in GCC had inferior performance in terms of capitalisation, profitability and efficiency compared to their conventional counterparts (Alqahtani *et al.,* 2017). The lack of short-term liquidity during the recent global financial crisis brought about liquidity shortage in Islamic banks. This was due to the inaccessibility of infrastructure that provides liquidity to the Islamic banks when needed.

It did not only lead to the control of undue credit expansion and debt accumulation, but also brought into effect the attention of liquidity and liquidity risk management in these institutions (Ali, 2013). This provided a greater importance to consider the bank type (Islamic and conventional) in this study. Significant differences in their capabilities to create liquidity during the time of crisis and to understand the driving factors of liquidity creation in both segments (pre-and post-political transition) provide vital contribution to the literature. Nevertheless, Islamic banks may face challenges to satisfy the Basel III liquidity requirements. This is because in times of need, organised Islamic money markets or inter-Islamic banks are lacking in many countries in which Islamic banks operate.In addition, the lack of liquid and active sukuk markets expose Islamic banks to huge market liquidity risks (Ariffin, 2012). Although central banks have the provision of instruments that are tradable and able to meet the short-term liquidity needs of Islamic banks, there is still a problem with the scarcity of Shariah compliant liquid assets.

Islamic banks have positive and significant effects on the banking sector development, particularly in the wake of Arab Spring as Islamic finance friendly policies are currently being set up in North Africa (Gheeraert, 2014). In 2016, the Islamic Financial Services Industry (IFSI) reported that the growth of Islamic financial services industry has slowed down since 2014.This decline can be traced back to financial market volatility, depreciation of the currencies of emerging markets, a weak global economy, geopolitical conflicts and depressed commodity prices particularly in oil price (Islamic Financial Services Board, 2016). As Islamic banks are vital in Islamic financial service industry, these challenges may affect their role, which is why it is important to be considered in this study.

1.4.3 Liquidity creation trend

Using Berger & Bouwman (2009) measurements (Cat measures), the sampled banks in MENA countries created US$ 1.277 trillion from on-and off-balance sheet items (Cat fat liquidity creation measure) and US$ 0.818 trillion from on-balance sheet items (Cat non-fat liquidity creation measure) for the period of 2006 and 2015. The conventional banks created more liquidity (US$ 0.907 trillion using Cat fat liquidity creation and US$ 0.549 trillion using Cat non-fat liquidity creation) compared to Islamic banks (US$ 0.370 trillion using Cat fat liquidity creation and US$ 0.271trillion using Cat non-fat liquidity creation). However, Islamic banks create more liquidity per asset than conventional banks. For example, in Islamic banks, liquidity created per asset from on-and off-balance sheet is 0.225 while liquidity created per asset from on-balance sheet is 0.164. Yet, in conventional banks, liquidity creation per asset from on- and off-balance sheet is 0.187 while liquidity creation per asset from on-balance is 0.113. Liquidity creation in MENA region is discussed in detailed in Chapter 4 Section (4.1.1 data). The trend of liquidity creation per asset for the sampled banks (both Islamic and conventional banks) in MENA region for the period 2006 to 2015 is as depicted in Figure 1.8.

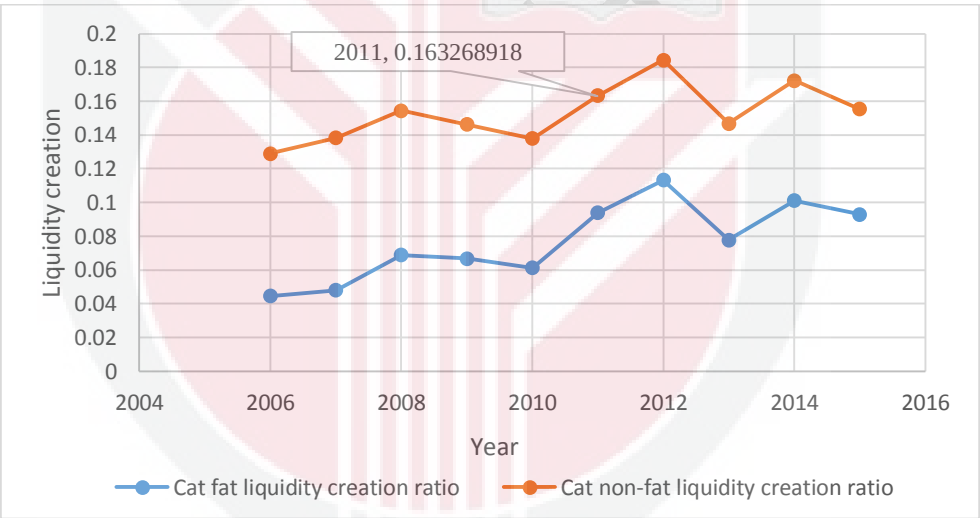

Figure 1.8 : Liquidity creation per Assets Trends for Sampled Banks in MENA Countries
(Source: Liquidity creation Cat fat and Cat non-fat calculated based on banks annual reports)

It can be observed from Figure 1.8 that there is a fluctuation in liquidity creation from on-and off-balance sheet activities (based on Berger and Bouwman 'Cat fat and Cat non-fat' liquidity measures). These measures are discussed in detailed in Chapter 3. Although previous studies found the banking sector in the Middle East and North Africa region to be less affected by the financial crisis in 2007-08, the fluctuation in creating liquidity can be observed for the period of pre-and post-political transitions. In the period prior to political transition (2006 to 2010), the highest level of liquidity created per assets by the sampled banks was in 2008, where Cat fat liquidity creation

reached 0.154 while Cat non-fat liquidity creation reached the value of 0.069. On the other hand, the lowest level of liquidity creation was in 2006 (0.129 for Cat fat and 0.045 for cat non-fat).

Compared to 2006, the increase in Cat fat and Cat non-fat in 2008 were 35% and 16%, respectively. In the period post-Arab Spring political transition, there was a dramatic increase in liquidity creation in 2012; an increase of 0.184 for Cat fat and 0.113 for Cat non-fat. However, this increase was followed by a significant reduction in liquidity creation in 2013, where Cat fat decreased by 31% and Cat non-fat by 20%. This fluctuation continued in 2014 and 2015. This variation in liquidity creation had raised question about factors that contribute to changes in bank's liquidity creation, such as, bank-specific, banking industry, macroeconomic and political factors.

1.4.4 Bank-specific factors

Bank-specific factors, such as, bank capital, bank stability and non-performing loans can influence bank's roles. Previous empirical studies presented the crucial role that capital plays in the ability of banks to perform their roles (Diamond & Rajan, 2000; Berger & Bouwman, 2013; *Fu et al.*, 2016). Based on Figure 1.9 below, capital possessed high ratio of equity to total assets, where the average capital in sampled banks in the period pre-Arab Spring was 14% for the period pre-Arab Spring and 11.9% for the period post-Arab Spring. From Figure 1.9, bank capital was significantly reduced in post-Arab Spring compared to pre-political transition. The average decline of capital was from 16% in 2006 to 12% in 2010.

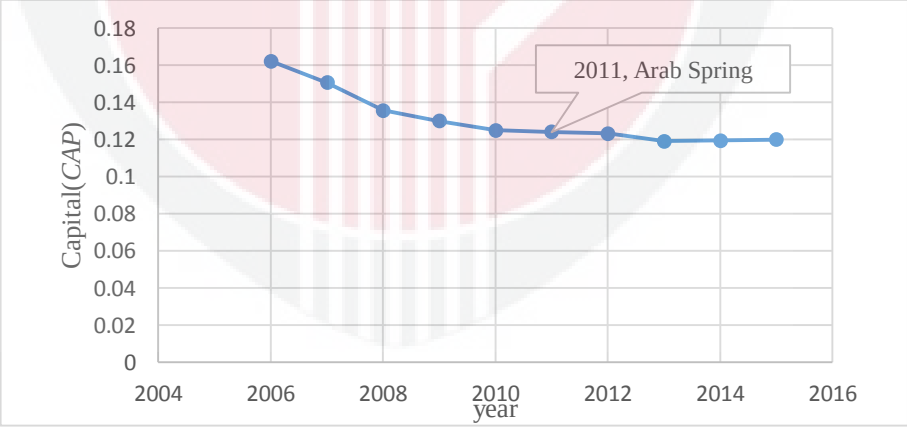

Figure 1.9 : Capital Trend for the Period 2006 to 2015 for MENA Selected Banks
(Source: data calculated based on banks annual reports)

On the other hand, in the period of post-Arab Spring, the reduction in capital contracted until 2013. After 2013, there was no significant change in the average bank capital, which remained at 13%. This requires examining banks' capital impact on liquidity creation and how it can discipline liquidity creation. With regard to bank's risk, generating liquidity can expose banks to various types of risk. Credit risk is the main

risk facing banks when performing their roles. Bank's stability measure using *Z-SCORE* in some countries that were affected by Arab Spring is presented in Figure 1.10 below. Bank *Z-SCORE* is calculated by the sum of the return on assets and the ratio of total equity to total assets divided by the standard deviation of the return on assets. It can be seen from Figure 1.10 that average *Z-SCORE* was dramatically declined in the period pre-Arab Spring compared to that of the period after Arab Spring.

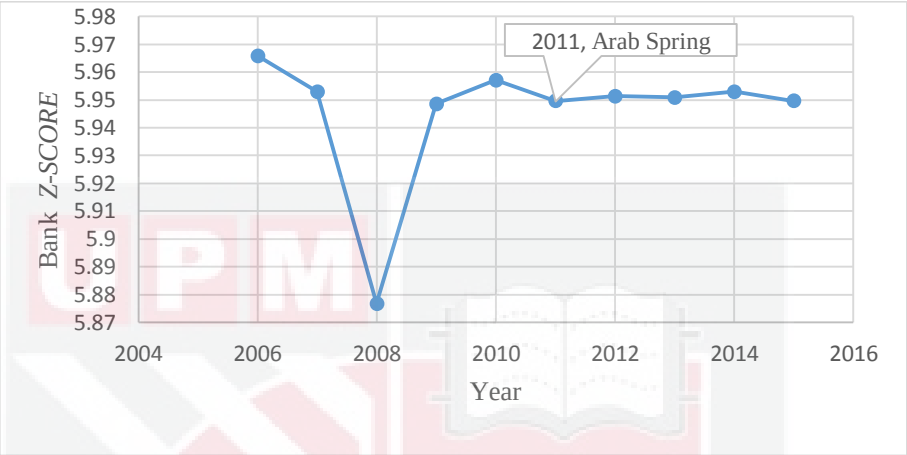

Figure 1.10 : Banks *Z-SCORE* Trend for the Period 2006 to 2015 in MENA Selected Banks
(Source: data calculated based on banks annual reports)

After the Arab Spring period, there is no noticeable change in the stability of bank. The researcher questions whether the stability of bank has an impact on the liquidity creation. Non-performing (*NPLs*) loans in MENA countries is presented in figure 1.11 below.

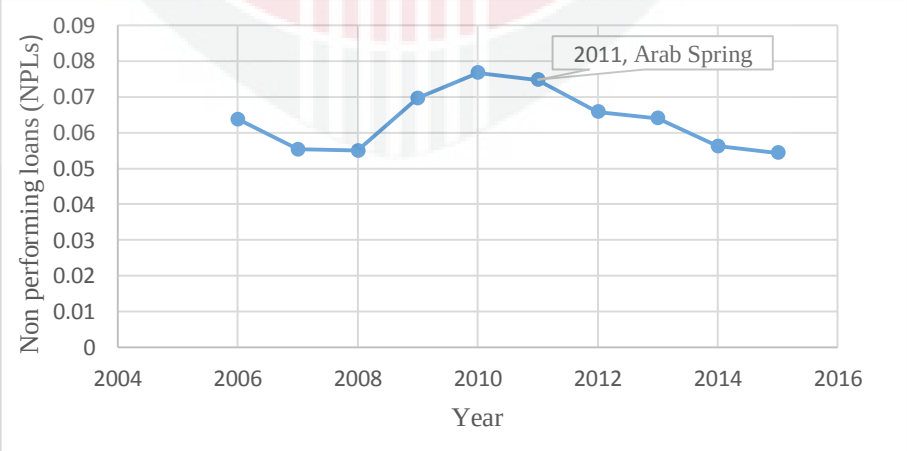

Figure 1.11 : Non Performing Loans Trend for the Period 2006 to 2015 for MENA Selected Banks
(Source: data are based on banks annual reports)

It is the sum of borrowed money upon which the debtor has not made his scheduled payments for at least 90 days to total loans. Non-performing loans (*NPLs*) in the MENA region is among the lowest average ratios compared to other developing regions (Almarzoqi *el at.*, 2015). Based on Figure 1.11, there was a fluctuation in average *NPLs* trend before the political transition. As an example, the assets' quality deteriorated from 5% in 2008 to 7.5% in 2010 (*NPLs* increased). However, there was an improvement in asset quality in the period after Arab Spring. For example, the non-performing loans to gross total loans declined from 7.4% in 2011 to 5.4% in 2015.

1.4.5 Banking Industry Factors

The industry specific factors, such as, competition and 'stability of banking industry' are also important factors. In MENA region, low competition level with high concentration banking industry (Al-jarrah *et al.*, 2017) and high barriers to entry may have an impact on bank's liquidity creation in this region (Haque & Brown, 2017). Besides banking industry factors, banks in MENA region are also sizable. Figure 1.12 indicates the increase in banks' total asset.

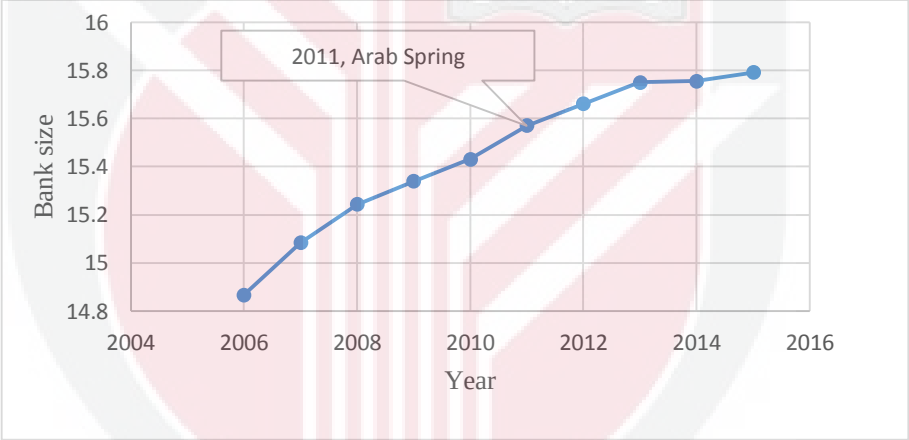

Figure 1.12 : Bank Size Trend for MENA Sampled Banks
(Source: banks annual report, bank size is the natural log of gross total assets)

For example, the highest increase in bank size was in 2015 (6.2% increase compared to 2006). Furthermore, from 2013 to 2014, the banks' size was consistent.

1.4.6 Unemployment

The deterioration of economy during political transition had driven up the unemployment rate for some countries in the MENA region as depicted in Figure 1.13 below.

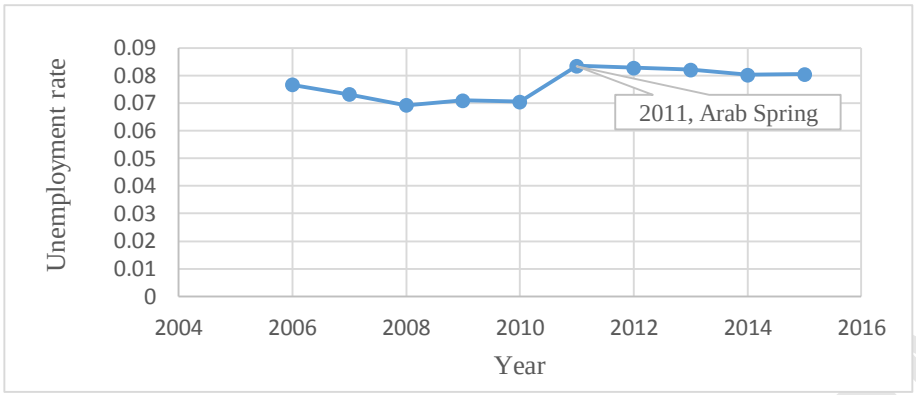

Figure 1.13 : Unemployment Annual Rate Trend for MENA Selected Countries
(Source: World Bank data)

From Figure 1.13, in the period pre-political transition, the average unemployment annual rate increased from 2008, which continued into the period post-political transition. The highest unemployment rate was in 2011 (8.4%) and continued almost at the same rate with a very little reduction in 2014 and 2015.

1.4.7 Economic Growth

With regard to economic growth, there was a decline in economic growth in many MENA countries during the Arab Spring period. This can affect the functioning of banks and needs to be examined. Specifically, its effect on bank's liquidity creation during pre-and post-political transition periods. Figure 1.14 exhibits fluctuations in the average gross domestic product (*GDP*) for the period of study. For the period pre-political transition, there was an improvement in *GDP* in the year 2007 (6.7%) followed by a significant decline in 2009 (64% decline compared to 2007). In the post-Arab spring period, the rate did not improve much with a recovery averaging at 3.9% in 2012. However, the lowest *GDP* was in 2015 with a value of 2.27%.

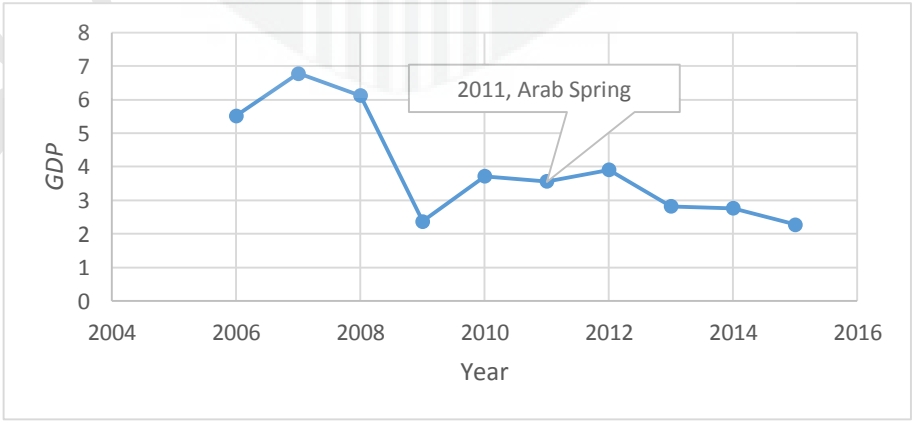

Figure 1.14 : (*GDP*) Annual Growth Trend for MENA Selected Countries
(Source: World Bank data)

1.4.8 Inflation

Another negative macroeconomic output is the inflation rate, which has been driven up by instability in this region. Figure 1.15 depicts the inflation rate in the MENA region.

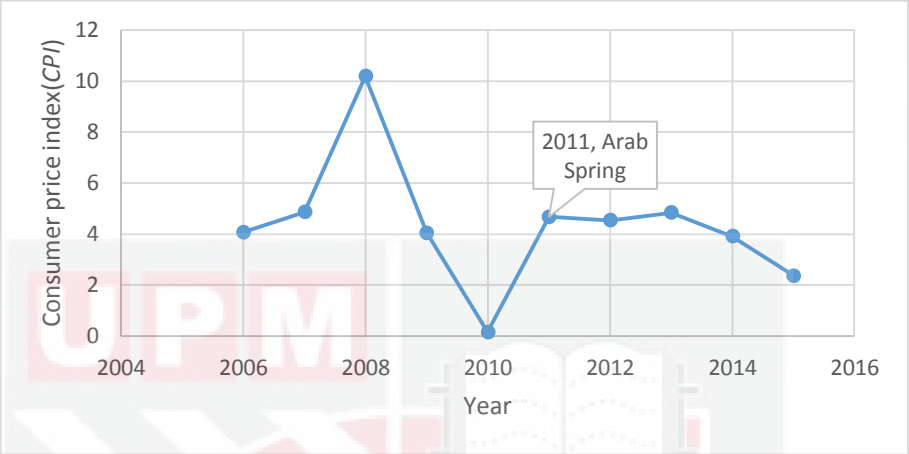

Figure 1.15 : Consumer Price Index (*CPI*) Trend for MENA Selected Countries (Source: World Bank data)

The highest increase of inflation during the period of study was 10.18% in 2008 followed by a notable drop in 2010 (at 0.147%). During the Arab Spring period, inflation continued to be high until 2013. There was a decline in *CPI* starting from 2014 onwards. Empirically, few studies, such as, those by Deep & Schaefer (2004) and Berger & Bouwman (2009) dealt with the creation of liquidity by banks. These studies took inspiration from the seminal research of Bryant (1980) as well as Diamond and Dybvig (1983).

The present study used Berger & Bouwman (2009) measures of liquidity creation, which comprehensively measure liquidity creation by including data from the asset, liability and off-balance sheet items. Berger and Bouwman (2009) recommended the use of these measures to investigate how liquidity creation differs across nations and address other interesting issues related to liquidity creation. This motivated researchers to conduct studies using similar measures to investigate various issues related to liquidity creation (Chatterjee, 2018; Chen *et al.*, 2015; Horváth *et al.*, 2014; Jiang *et al.*, 2019).

Studies adopted these measures in developing countries in Asia include those by Al-khouri and Arouri (2019), Chen *et al.* (2015), Fu *et al.* (2016) as well as Sahyouni and Wang (2019). However, most empirical evidences on liquidity creation focused more on developed countries (Fu *et al.*, 2016; Mohammad, 2014; Al-khouri & Arouri, 2019). In addition to the lack of studies related to the creation of liquidity in developing nations, the Arab Spring is an opportunity to investigate issues with regards to political

transition. The Arab Spring is a time of crisis that shows how banks perform their roles during normal time and political transition and how liquidity creation with its determinants can be affected.

This study examined the liquidity creation using Berger & Bouwman (2009) measures (Cat fat & fat non-fat) in selected conventional and Islamic banks from MENA countries pre-and post-political transition for the period 2006 to 2015. This included the examination of political risk, bank-specific factors, industry factors and macroeconomic factors on the creation of liquidity. This study is expected to contribute to the literature related to determinants of liquidity creation, Islamic banking and political risk impact on banking sectors.

1.5 Problem statement

Political risk can cause discontinuities in business and affect business profits, objectives and outcomes (Bekaert *et al.*, 2014; Campos *et al.*, 2012; De Mortanges & Allers, 1996; Francis *et al.*, 2014; Le & Zak, 2006; Robock, 1971; Smales, 2014; Waisman *et al.*, 2015). The current regional tensions (Arab Spring) and the challenges from the external influences have hugely hit the economies of most MENA countries. Egypt, Tunisia, Iran, Lebanon, Jordan, Yemen and Libya are some of the countries experiencing slow economic growth, depleting fiscal buffers, rising unemployment and high inflation rates. Other Arabic countries also affected. While these countries have already suffered from the lack of political and macroeconomic stability (International Monetary Fund, 2010), the Arab Spring crisis had increased the deterioration of growth in the region (Devarajan & Mottaghi, 2014; Yusuf, 2014). It also led to negative reactions from the rating agencies in some MENA economies (Ghosh, 2016). Although there was a slight improvement in the region in 2016 (mainly for the oil-exporting countries), this growth remained fragile as it depends on the improvement of political risk situation and lingering structural impediments.

The banking sector, being a crucial factor in MENA financial sector, is not spared. However, most previous studies related to the Arab Spring focused more on political events, such as, presidential elections, military wars and terrorist acts (Mnif, 2017). Since banking is a crucial economic sector (Andrew, 2019; Berger & Sedunov, 2017; Diamond, 1997; Farroukh, 2013; Financial Stability Board, 2018; Jokipii & Monnin, 2013; Kashyap *et al.*, 2002; Koetter & Wedow, 2010; United Nations, 2019), it is vital to maintain its stability to allow it to perform its roles.

Compared to other emerging and developing markets, the banking sector in the MENA region did not significantly suffer from the global financial crisis (2007-2008) and has rapidly recovered (Almarzoqi *et al.*, 2015; Ianchovichina & Mottaghi, 2013). Generally, the banking segment was the least sensitive sector in crises related to political risk (Bremmer & Keat, 2009; Chen & Siems, 2004; Chesney *et al.*, 2011) in contrast with the recent financial crash in 2008. However, the banking industry in MENA region was also affected (Bitar *et al.*, 2016; Devarajan & Mottaghi, 2014; Devarajan *et al.*, 2016; Ghosh, 2016; International Monetary Fund, 2016; Yusuf,

2014). The financial sector's liquidity in this region continues to decline as many countries in the region remain affected by political instability. Expectations of a continued decline in liquidity in the financial system led to the deterioration of customers' and investors' confidence in dealing with banks. This prompted some investors to withdraw their money from banks. The amount of currency managed outside of the framework of the bank in Libya increased to 28% in 2016 compared to 18% in 2010 (Al-Shahomy, 2016).

Diminishing the investor interest led to the drying up of external financing, which has increased the pressure on the banking and financial sectors in some MENA countries. This is more so for countries like Egypt, Tunisia and Lebanon due the neighborhood effects spilling over (Neaime, 2012). The Arab Spring has been associated with an overall reduction in bank profitability (bank's profitability declined nearly 0.2%), which led to a significant increase in bank risk (Bitar *et al.*, 2016; Ghosh, 2016). Deposit growth was slow in the affected countries (less than 0.5% compared to over 20% in the non-affected countries).

There was also a significant reduction in overall credit. Credit fell by, on average, 4% in the less-impacted countries compared to nearly 20% in the affected ones (Al-Shahomy, 2016; Central Bank of Egypt, 2018; Devarajan *et al.*, 2016; Islamic Financial Servic Board, 2016; Neaime, 2012) . These conditions raised questions about bank's liquidity creation. Liquidity creation is one of the main roles that banks perform to fund the economic activities (Acharya & Naqvi, 2012; Bouwman, 2014; Bryant, 1980; Diamond & Dybvig, 1983; Hauck & Vollmer, 2013). The focus on liquidity creation became more crucial after the financial crisis in 2008 (Berger & Bouwman, 2015; Fu *et al.,* 2016). Basel committee proposed two separate minimum liquidity ratios to enable the banks to meet their obligations in the short term (the liquidity coverage ratio (LCR)) as well as in the medium and long term (the net stable funding ratio (NSFR)). Liquidity creation studies grew after the introduction of liquidity creation methods by Berger & Bouwman (2009)(Al-khouri & Arouri, 2019; Davydov *et al.*, 2018; Fungáčová *et al.*, 2017; Fungacova *et al.*, 2015; Jiang *et al.*, 2019; Lei & Song, 2013; Umar & Sun, 2016).

However, related studies are still limited (Díaz & Huang, 2017), specifically in developing countries (Chen *et al.,* 2015; Fu *et al.,* 2014) such as those in MENA region. Based the World Bank data, variations in depositors and borrowers rates can be observed in MENA banking industry (World Bank, 2020). The rate of depositors decreased in 2013 by 12% compared to 2011 (Arab Spring). However, this rate improved in 2015 by 24% compared to 2010. On the other hand, the rate of borrowers in 2012, declined by 30% compared to 2010, and became unstable from 2013 to 2015 indicating the changes of bank's behaviour in performing liquidity creation.

Fluctuation in liquidity creation for sampled banks was observed in MENA region for the period of study in pre-and post-Arab Spring. This raised questions about banks' role as a liquidity provider and how it is affected by micro and macro determinants, taking into consideration political risk. Conventional banks create more liquidity (US$

0.907 trillion from on-and off-balance sheet activities compared to Islamic banks (US$ 0.369 trillion). However, Islamic banks generate more liquidity per asset (0.225) compared to conventional banks (0.187). Islamic banks positively influence the banking industry in MENA region and continue their growth through unique products (Ftiti *et al.,* 2013; Islamic Financial Services Industry, 2018). Nevertheless, there is no consensus about their stability compared to their conventional counterparts during crisis time, which is required to consider the bank type in this study. Generally, MENA average loans to deposit ratio (76%) is below the world loans to deposit ratio (85%) for the period 2007 to 2011. Also, on average, the share of liquid assets to deposits and short-term funding is highest in the MENA region (close to 42%) exceeding the world ratio of 32% (Gray *et al.*, 2014). Maintaining high liquid assets can contribute towards reduction in liquidity creation.

Even though the buffering of capital generally remains strong, the increase in domestic financial risk in MENA region and erosion of bank's profitability may lead to the decline of banks' assets as the non-oil economies deteriorate further (International Monetary fund, 2016; Devarajan *et al.,* 2016).The average bank capital ratio in sampled banks was above 11%, which is higher than bank capital ratio proposed by Basel III (10.5%). The imposition of ratios on bank capital is aimed at maintaining a healthy banking sector. This is because bank capital can be used as a disciplinary tool to encourage banks into maximising their creation of liquidity (Diamond & Rajan, 2000, 2001).

Besides, bank's risk bearing abilities can be improved by high capital ratios that encourage liquidity creation (Bhattacharya & Thakor, 1993; Coval & Thakor, 2005). Nevertheless, capital ratios for sampled banks in MENA region declined in the period post-political transition. This necessitates the examination of its impact on liquidity creation. Liquidity funds the economy; however, excessive increase or decrease of liquidity can expose banks to various risks that influence their operations (Acharya & Naqvi, 2012; Bouwman, 2014; Fungáčová *et al.,* 2013; Hauck & Vollmer, 2013). The decrease in banks liquidity level (high liquidity creation) may subject banks to liquidity risk and other types of risks such as credit risk and interest rate risk (Bouwman, 2014; Chava & Purnanandam, 2011; Chiaramonte & Casu, 2016; Hauck & Vollmer, 2013). The lack of liquidity may lead to individual and systemic banks failure, because liquidity or lack of it acts as a channel through which the infection spreads to other banks (Fungáčová *et al.,* 2013).

On the other hand, high liquidity, encourage bank managers take more risk by sharply reducing the lending rate to increase loan size to enhance their own compensation. Reducing borrowing standards represents the managers' confidence that they will not face a funding liquidity risk(Acharya & Naqvi, 2012). These were the seeds of the previous crisis 2007-2008 unless central banks curbed the abundance of liquidity in a timely manner. Lack of liquidity creation reduces the supply of credit, which can lead to an economic recession and a global meltdown and distributional effects across all companies in the economy (Diamond & Rajan, 2005).

The fluctuation of liquidity creation in the MENA countries had raised concern about the stability of the banking industry and the whole financial system. A high loan growth is usually trailed by the financial crisis (Crowley, 2008; Ghenimi, 2017). For both Islamic and conventional banks, non-performing loans probably affect the liquidity and profitability of banks, more so in emerging markets and economies that depend on export of commodities (Islamic Financial Services Board, 2016). Although the non-performing loans (*NPLs*) in 2014 in MENA banking industry were among the lowest average ratios (*NPLs* for MENA region banking industry is 4.6%) compared to other developing regions (*NPLs* for banking industry South Asia is 7.8%), they are still higher than the world's average of 4.1% (Sharma, 2016). Previous literature showed conflicting findings with regard to liquidity creation's relationship with capital and bank's risks (Acharya & Naqvi, 2012; & Sohn, 2017; Lei & Song, 2013; Umar & Sun, 2016).

Most studies in the MENA region focused more on other bank specific factors such as bank's profitability using measures such as return on assets (ROA) and return on equity (ROE) (Biter *et al.*, 2016; Ghosh, 2016; Mohammad, 2014; Sahyouni & Wang, 2019). Competition is one of the main banking industry factors that encourage banks to increase or decrease their liquidity creation. The increase in competition can encourage banks to decrease their lending rates. Meanwhile, profit margins will decrease when deposit rates increase.

This means that the motivation for banks to obtain new borrowers will decrease according to the reduction in market incentives (the lower spread between borrowing and lending) (Horvath *et al.*, 2016). On the other hand, the increased competition can contribute towards improvement of liquidity creation. This is because the increase in the competition level can reduce the interest rates charged by banks and increase deposit rates (Boyd & De Nicolo, 2005). Borrowers will find it easier to repay their loans since lowering loan rate implies that the conditions for borrowing credit will be better, which decreases the risk of the loan portfolio.

Even with the increase in global banking activities globally (Andrew, 2019; Financial stability board, 2018; Horvath *et al.*, 2016; United Nations, 2019), previous literature mostly focused on the nexus between competition and bank's stability (Almarzoqi *et al*, 2015; Anginer *et al.*, 2014; Beck, De Jonghe, *et al.*,. 2013; Berger *et al.*, 2009; González *et al.*, 2017). Besides, previous studies related to competition and liquidity creation in the banking industry have been conducted in developed countries (Horvath *et al.*, 2016; Jiang *et al.*, 2019) where the competition level is exceptionally homogeneous (and for the most part is intense).

Nevertheless, banking industry in MENA region is characterised by low competition. Recently, banks in the MENA countries are facing various changes such as conventional banks that operate and compete along with their Islamic banks, the opening up of certain markets to foreign competition and the improved role of bank lending. However, banks in this region are still highly concentrated. This provides the

need to examine the impact of competition and concentration on liquidity creation vis-a-vis political transition (Arab Spring).

Macroeconomic indicators, such as, unemployment rate, inflation rates and economic growth rates with bank specific indicators are valuable early flags of banks' difficulties (Gerlach *et al.,* 2005; Duenwald *et al.,* 2007; Love & Ariss, 2014; Mare, 2015; Makri & Papadatos, 2016).. In general, banks adjust their lending behaviour based on their expectations for the performance of economy in a country. They are more likely to increase lending in response to positive economic indicators (Somoye & Ilo, 2009; Talavera *et al.,* 2012) such as improvement in economic growth rate and decline the unemployment and inflation rates.

The increase in employment rate leads to the increase in banks' deposits and more people who become interested to ask for banks' loans. However, the unemployment rate in this region is considered one of the worst compared to other regions, especially among the educated people. Deterioration in employment rate in the MENA region could increase the probability of loan denial (Munnell *et al.,* 1996). This is because borrowers can face difficulty repaying their debts to the bank on time, which threats bank's solvency reduce bank's liquidity (Horváth *et al.*, 2014).

Banks may face problems funding their lending commitments. For example, in Egypt, there was a sudden increase in rate of deposits and borrowing that alleviated inflation in 2017 (Central Bank of Egypt, 2017), which can affect the banks' behaviour in performing their role and may lead to fluctuation in liquidity creation. Well-functioning banks can positively influence economic growth by reducing transaction cost through successful resource allocation, increase in saving rates and support in the market development (Naceur *et al.,* 2014).

However, the slow growth in MENA region can influence liquidity creation. This is because each component of liquidity creation can influence economic growth and vice versa. In 2016 and 2017, the growth of credit in most MENA countries was still subdued, reflecting weak spending by consumer, government, state–owned enterprises and confidence deterioration. Given this situation, this study intends to examine the impact of political risk, bank-specific factors, industry factors and macroeconomic factors on liquidity creation in MENA region during pre-and post-political transition

1.6 Motivation of the Study

Investigating liquidity creation in selected Islamic and conventional banks in MENA countries during pre-and post-political transition was driven by several motivations. First motivation was that negative effects of political risk could cause disruption of business including the banking sector. Banking industry in this region is a vital component of financial system. Therefore, it is necessary to maintain its stability to perform its functions properly. This requires an in-depth study to determine how political risk affects the bank's functions, specifically in liquidity creation. Moreover,

the recent political transition was different from the previous political upheaval, which was short with quick recovery.

Few studies have been conducted to investigate the effects of political transition in banking systems (Bitar *et al.*, 2016; Chau *et al.*, 2014; Ghosh, 2016). The study conducted by Abdelbaki (2013) focused on the effects of the Arab Spring on the performance of Egyptian stock market. Chau *et al.* (2014) investigated the role of political uncertainty in MENA countries on stock market stability and documented a significant increase in the volatility of Islamic indices during the period of political transition where the uprisings had little or no significant impact on the volatility in conventional markets.

Recently, Mnif (2017) investigated the impact of political uncertainty on Tunisian stock market and found that Tunisian political weakness has led to unstable financial markets. Nevertheless, this study is different from the previous study as it intends to provide evidence on the impact of political transition on the ability of the banking sector in this region to create liquidity. Also, this study examines how bank-specific factors, industry factors and macroeconomic factors contribute to influence liquidity creation function in the period of pre-and post- political transition. The second motivation was related to the peculiar characteristics of the banking sector in these countries (low competition and highly concentrated banks), which provide a unique setting with regards to liquidity creation.

Given the growing importance of the Islamic banks, there is a need to investigate their stability during crisis period. This is because Islamic banks, which is of high proportion in the MENA region (Ali, 2011), may face challenges to meet the liquidity requirements proposed by Basel III due to Shariah constraints (Ahmed, 2015; Almarzoqi *et al.*, 2015; Boumediene, 2015). Previous studies provided inconclusive findings regarding this issue (Beck, Demirgüç-Kunt, *et al.*, 2013; Bourkhis & Nabi, 2013; Ftiti *et al.*, 2013; Khediri *et al.*, 2015; Olson & Zoubi, 2017; Rahim & Zakaria, 2013). Therefore, it would be interesting to consider bank type (Islamic and conventional banks) and reveal the difference between them regarding to liquidity creation pre and post- political transition.

1.7 Research Objectives

The general objective of this study is to examine the impact of political risk, bank-specific factors, banking industry factors and macroeconomic factors on liquidity creation pre-and post-political transition using Berger and Bouwman, (2009) measures (Cat fat & Cat non-fat) in selected Islamic and conventional banks from MENA countries for the period of 2006 to 2015.

1.7.1 Specific Objectives

1. To determine the relationship between liquidity creation and political risk for Islamic and conventional banks in MENA countries during pre-and post-political transition.
2. To examine the relationship between liquidity creation and bank-specific factors, political risk for Islamic and conventional banks in MENA countries during pre-and post-political transition.
3. To examine the relationship between liquidity creation and banking industry factors, political risk for Islamic and conventional banks in MENA countries during pre-and post-political transition.
4. To determine the relationship between liquidity creation and macroeconomic factors, political risk for Islamic and conventional banks in MENA countries during pre-and post-political transition

1.8 Research Questions

Several research questions were established related to the research objectives to provide the stipulated empirical evidences. In particular, the research questions are:

1. Is there a significant difference in relationship between liquidity creation and political risk for Islamic and conventional banks in MENA countries during pre-and post-political transition?
2. Is there a significant difference in relationship between liquidity creation and bank-specific factors, political risk for Islamic and conventional banks in MENA countries during pre-and post-political transition?
3. Is there a significant difference in relationship between liquidity creation and banking industry factors, political risk for Islamic and conventional banks in MENA countries during pre-and post-political transition?
4. Is there a significant difference in the relationship between liquidity creation and macroeconomic factors, political risk for Islamic and conventional banks in MENA countries during pre-and post-political transition?

1.9 Theoretical Framework

This section includes concepts together with their definitions and theories that are relevant to the research problem. The financial intermediation theory, political risk theory, competition theory and economic theories were used to justify the relationship between liquidity creation and political risk, bank-specific factors, macroeconomic factors.

1.9.1 Financial Intermediation Theory

Intermediation theories are built on asset allocation models based on perfect and complete market by proposing that it is a friction, like asymmetry of information and transaction cost, which are crucial in understanding intermediation (Gurley & Shaw, 1960). Based on this theory, Bryant (1980) as well as Diamond and Dybvig (1983) explained that the creation of liquidity by banks is done in on-balance sheet through the financing of illiquid assets with liquid liabilities. This contributes towards a competitive market through the provision of better risk sharing among people who consume randomly.

Investors demand liquidity since they do not know when they have to use and to what extent they wish to hold their cash. Therefore, banks estimate the liquefaction of their assets on few conceivable dates. By performing this role, banks maintain a strategic distance from the additional role of monitoring, which lessens the general cost of transferring funds from capital suppliers to their clients (Kashyap *et al.*, 2002; Leland & Pyle, 1977). In a study, Holmström & Tirole (1998) suggested that the creation of liquidity could be done by banks off the balance sheet through the commitments of loans that can be exercised in future and similar claims of liquid funds.

Bank provides loans that are difficult to be sold quickly on a higher price and issues deposits on demand, which gives depositors the right to withdraw their money any time. Nonetheless, this leads to liquidity mismatch. Banks could be exposed to a situation called a bank run where too many depositors try to withdraw their money at once. When banks issue liabilities that are more liquid than the assets they hold, this is considered as insurance arrangement, in which losses arising from the early sale of assets are shared between depositors and banks (Diamond & Dybvig, 1983). Demand deposits work well when investors forecast the survival of bank; however, when investors lose faith in banks, there will be a severe damage.

Theoretically, Acharya and Naqvi (2012) in their study revealed that when banks have a high level of deposit inflow, managers are encouraged to take more risk by sharply reducing the lending rate to increase loan size to enhance their own compensation. Reducing borrowing standards represents the managers' confidence that they will not face a funding liquidity risk. However, banks may face a capital shortfall that can lead them to failure. The scope for banks to write refined contracts like suspending the suspension of deposits to cash is available. A portion of liquidity created by a financial institution can be viewed as a positive externality to society as it stimulates future economic activities between parties who are unrelated to that financial institution. However, when a bank creates liquidity, it does so to earn a private return from the interest margins from fees associated with the deposit and loan contracts. This set of business decisions generates private risk since making a business loan (as opposed to investing in a treasury security) exposes the bank to credit risk, while demand deposit finance (as opposed to fixed maturity finance) exposes the bank to liquidity risk.

Moreover, banks' vulnerability may increase through creating more liquidity (Acharya & Naqvi, 2012), which is a key source of systemic distress and high costs of bank failure (Fungáčová *et al.*, 2013). The existing theory focuses on the relationship between the creation of liquidity and capital, which develops two main hypotheses; a) "financial fragility–crowding out" hypothesis b) "risk absorption" hypothesis. The "financial fragility–crowding out" hypothesis suggests that liquidity creation is negatively influenced by bank capital (Berger & Bouwman, 2009; Distinguin *et al.*, 2013; Xie, 2016).

A fragile capital structure can be used as a disciplinary tool to encourage banks maximising their creation of liquidity (Diamond & Rajan, 2000, 2001). Deposits can be crowded out by high capital ratios to limit the creation of liquidity. In contrast, the "risk absorption" hypothesis shows a positive effect. It proposes that bank's risk bearing abilities are improved by high capital ratios, which encourages the creation of liquidity (Bhattacharya & Thakor, 1993; Coval & Thakor, 2005).

1.9.2 Political Risk Theory

According to De Mortanges and Allers (1996), Robock (1971) as well as Bekaert *et al.* (2014), a political change that leads to distribution in the business situation affecting the firm's profits and objectives is considered as political risk. It is one of the general uncertainties that reduce the predictability of corporate performance and increase risk (Busse & Hefeker, 2007). Political uncertainty takes different forms such as war, election and internal conflict. With regard to MENA nations, the main forms of political uncertainty are civil protests and revolutions (Chau *et al.*, 2014).

According to Bloom (2009), uncertainty seems to be growing markedly after major economic and political shocks, such as, the Cuban missile crisis, the September 11 attacks and the OPEC oil crisis. Uncertainty leads to a sharp drop in investment and a worsening economic situation due to the widespread of 'wait and see' strategy. The Bloom's model (Bernanke, 1983; Hassler, 1996) focuses on uncertainty variations. A study by Bonciani & van Roye (2016) used Bloom's model to explore how economic activities are affected by uncertainty shocks in the euro area. Many studies emphasised the importance of Bloom's approach (Arellano *et al.*, 2010; Mian & Sufi, 2014).

In this study's context, uncertainty shocks, as a result of sever political risk in MENA countries, can have consequences on all sectors. The political uncertainty associated with political events affects any company in any sector. This is because political conditions may worsen results, influencing investment decisions or changing the order of potential projects. Some companies may be forced to delay their investment decisions until the political uncertainty is resolved (Pastor& Veronesi, 2012). This can affect the bank's deposit which is the main source to fund illiquid assets. Debtors are also in a similar circumstances. Changing future cash flows of companies has an effect on increasing the risk of default (Nini *et al.*, 2012). Therefore this has an impact on banks in terms of creating liquidity, as they may seek to impose high-cost guarantees.

The inability of some companies to provide these guarantees can contribute to reduce liquidity creation by banks.

1.9.3 Bank Competition Theory

Competition can incentivise banks to increase or decrease liquidity creation, both of which may affect their stability (Fungacova *et al.*, 2015) and roles. Off-balance sheets activities were introduced in the 1980 due to the aggressive competition from financial markets (Freixas & Rochet, 2008). There are two conflicting hypotheses with regard to competition; a) competition-fragility (Keeley, 1990) and b) competition-stability views (Boyd & De Nicolo, 2005). The competition-fragility view states that lending rate decreases as the level of competition increases and profit margin will reduce when deposit rate rises.

The idea is that the ability for banks to establish relationship with new borrowers will be barred through the reduction in market incentive, a relationship that can lead to the creation of future shared surpluses (Horvath *et al.*, 2016). The entire system could be negatively affected including individual institutions as this would also lead to a decrease in bank's value of franchising and more incentives in risk taking. On the other hand, the competition-stability approach implies that the increase in competition level reduces the interest rates charged by banks and increases deposit rate. Banks will find it easier to repay their loans since lowering loan rate implies the conditions for better borrowing credit, which decreases the risk of the loan portfolio and improves the stability of individual institutions.

1.9.4 Economic Theories

Given that the primary function of banks is liquidity creation, the cyclical fluctuations to create liquidity may result in adverse effects on the economy by intensifying the state of recession. In theory, the creation of liquidity can be cyclical as it increases with the growth in lending and deposit in banks. The positive relationship between business cycle fluctuations and bank liquidity creation has been documented in Russian banks, where the substance of procyclicality was higher for liquidity creation than for lending (Davydov *et al.*, 2018). Liquidity creation can be also a significant predictor for recession.

When there is a difficulty in obtaining credit, banks provide their customers with off-balance sheet credit, such as, standby letters of credit by Thakor (2005). Chatterjee (2018) showed that bank on-balance sheet liquidity creation declined at approximately four quarters prior to recessions and continues to decrease leading to recessions. He supported the argument of Thakor (2005) for the 1984–2002 subsample. Nevertheless, in the recent financial crisis in 2007, Chatterjee (2018) revealed a decrease in liquidity created from off-balance sheet items in the period prior to the last financial crisis 2007-2008. Moreover, in general, both on-and off-balance sheet continue to decrease after the recessions. With regard to liquidity creation and unemployment, the theory of

loanable fund can justify this relationship. It was formulated by economists Dennis Robertson and Bertil Ohlin in the 1930s (Thinkers & Series, 2008). This theory explains when and how the bank's deposits are supplied by householders and under which condition will these funds increase or decrease. The theory of loanable funds principle extends the traditional theory which determined the rate of interest through saving and investment only. As this theory added that bank credit can exceed the total amount of credit available in the economy of private savings because the banking system is in a position to create loans out of thin air. Therefore, the balanced interest rate or the market is not affected only by the tendencies of saving and investment, but also by the ability of the bank to create or destroy credit. A bank's ability to create or destroy liquidity can be determined by the economic situation. Asea & Blomberg (1998) studied two million loans given by 580 in the years 1977 to 1993. They found that banks changed the terms of lending from the laxity to restricted, systematically over the business cycle.

In the contractionary times of the cycle (with high unemployment rate), the risk premium that banks impose on loans increases through increasing collateral on loans. On the other hand, in the expansionary times of the cycle (with low unemployment rates), the volume of loans and guarantees increases. Financial contracting in the presence of asymmetric information and insufficient collateral (functioning through nominal and real interest rates) can explicate both cyclical and unemployment rates in long-run movements (Farmer, 1985, 1988).

Unemployment rate and bank's liquidity creation can affect each other (Duygan-Bump *et al.*, 2015. Unemployment rate can be used as a proxy of general economic health, which may affect liquidity creation. High unemployment rate generally leads to low demand for credit. Liquidity. Bank's deposits increase during good economic conditions (such as, strong *GDP* growth). Previous literature explained that unemployment rate increases the probability of loan denial (Munnell *et al.*, 1996). On the other hand, the amount of fund deposited in the financial institutions decreases when economic conditions deteriorate. When there are adverse macroeconomic shocks, borrowers may have difficulty paying back their debts to the bank on time, which threats bank's solvency and gives problems to banks in funding their lending commitments. In addition, increasing demand for bank's deposits or foreign capital encourage banks to create more liquidity, which may result in a high level of risky loans. Liquidity could be created through credit demand by a surging economy. Historically, (1873), Schumpeter (1982) and Robinson (1952) emphasised the crucial role of banking sector on economic growth.

However, the theory of economic development by Schumpeter (1911) set the role of financial intermediation at the centre of economic development (Sinha, 2001). Schumpeter's approach about the relationship of banking (and funding) with economic development (and growth) is being taken seriously. Goldsmith (1969) studied the role of financial intermediation on economic growth in 67 countries in the period between 1860 and 1963. He used the financial intermediation ratio (total assets of all financial intermediaries divided by the *GDP* of the corresponding year) as a measure of financial development.

Smith found that there is a positive correlation between economic growth and financial developments over decades.Financial intermediation can impact the economic development through their roles, which include collecting of savings, funding projects, observing managers, facilitating the transactions and obtaining private information about companies at lower costs. Therefore, banks act as society's authorised agents to allocate savings to entrepreneur and companies with high competitive advantages and innovation (Bloch & Tang, 2003). Well-functioning banking sector is positively correlated with economic growth rate (Gorton & Winton, 2017; Levine & Zervos, 1998). All the components of liquidity creation from loans, deposits, items outside the budget play important roles in the economy and are theoretically tied to economic growth (Berger & Sedunov, 2017).

For instance, bank loans are an important source of financing for investors who face difficulties in obtaining funds through the financial market and these investors play major roles in the growth of the economy. Deposits can be used to finance huge projects by creating savings for that (Koetter & Wedow, 2010). Off-balance sheet activities like the commitment of loans and standby letters of credit allow customers to expand their economic activities.

With regard to liquidity creation and inflation, theoretical researches in the literature emphasised that banks or equity market activities can be affected by the foreseeable increase in inflation. Based on a study by Huybens and Smith (1998) built on informational friction theory, in general, the real rate of return on assets is lowered by an increase in inflation. Frictions in the credit market are aggravated by a reduction in real returns, which leads to the severity of the rationing of credits (Boyd *et al.*, 2001). Accordingly, the financial sector will create few loans, resource allocation becomes inefficient and intermediary activity declines, which will provide adverse impact on the investment of capital (Huybens & Smith, 1999). Based on previous studies and theories, the research framework was established as illustrated by Figure 1.16.

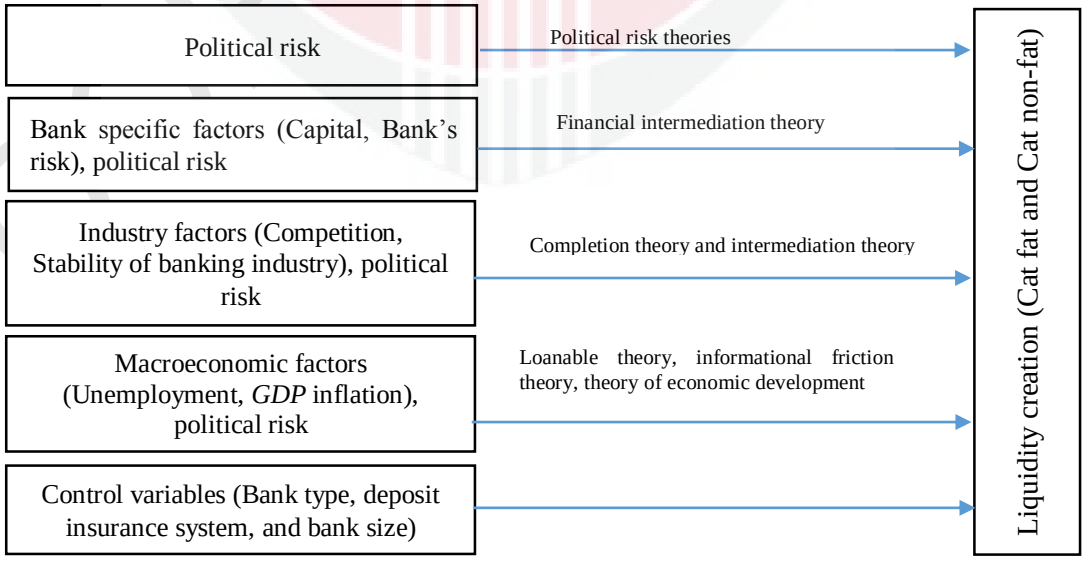

Figure 1.16 : The Research Framework

It explains the rationale and defines predictions for liquidity creation and the effects of political risk, bank-specific factors, industry factors and macroeconomic factors during pre-and post-political transition in MENA countries. To examine how liquidity creation relationship with its determinants can be changed pre- and post-political transition, the political situation should be consider. This can be done through including political instability as proxy of political risk with other variables for each objective. Historically MENA region is considered unstable region compared to other regions, therefore, political instability should not be neglected. Examining the impact of political risk is one of current study contribution. Therefore, involving this factor can strengthen results related to its impact on liquidity creation.

1.10 Significance of the Study

This study is expected to provide a significant contribution to the topic from several perspectives. As there is scarcity of studies focusing on the impact of Arab Spring on banking sector, this study provides an evidence related to the impact of political transition in banking sector in MENA countries. It gives a better understanding on the issues related to liquidity creation during this period and how it has been affected before and after the crisis. This study is expected to contribute to literature of Islamic bank's stability. As there is inconclusive evidence about the ability of Islamic banks to cope with crises and political transition, this study provides a unique opportunity to determine this issue by considering the bank type (Islamic and conventional banks). It is expected to reveal how Islamic banks can deal with crisis of liquidity and the challenges that may be faced to obtain liquidity. Due to the lack of studies related to liquidity creation specifically in developing countries, this study is hoped to shed light on the determinants of creating liquidity in this region during the study period.

Results can be taken by the decision makers regarding the management and control of liquidity in the banking sector in normal times and times of crisis. The impact of macro political risk has not been examined in empirical literature related to liquidity creation. Therefore, this study contributes to the literature related to the determinants of bank's liquidity creation particularly empirical studies on liquidity creation using comprehensive measures, such as, that by Berger & Bouwman (2009). Specific characteristics of banking sector in MENA countries may reveal new information on liquidity creation.

Using macroeconomic factors to examine the bank's liquidity creation is beneficial. This is because studies showed that macroeconomics factors perform better as indicators of early warning of bank's crisis compared to models that focus on bank's specific factor (Quagliariello, 2008). Therefore, determining the impact of micro and macroeconomic factors on liquidity creation in this region may help the decision makers to promote financial stability and economic growth besides aiding policy makers to mitigate systemic distress. This is because measuring liquidity creation can provide early warning of the risks that the bank is likely to face as a result of the severe shortage of liquidity or excessiveness in creating liquidity and enhance the monitoring of their funding and investment activities.

REFERENCES

Abdelbaki, H. H. (2013). The impact of Arab spring on stock market performance. *British Journal of Economics, Management & Trade, 3(3),* 169–185.

Abuzayed, B., Al-Fayoumi, N., & Gharaibeh, H. (2012). Competition in MENA countries banking markets. *International Journal of Financial Services Management*, *5*(3), 272-301.

Acharya, V. V, & Thakor, A. V. (2016). The dark side of liquidity creation: Leverage and systemic risk. *Journal of Financial Intermediation, 28(10),* 4–21.

Acharya, V., & Naqvi, H. (2012). The seeds of a crisis: A theory of bank liquidity and risk taking over the business cycle. *Journal of Financial Economics, 106(2),* 349–366.

Adrian, T., & Brunnermeier, M. K. (2011) , *CoVaR* . (Working paper No.17454). Retrieved from National Bureau of Economic Research website: https://www.nber.org/papers/w17454.pdf

Agoraki, M. E. K., Delis, M. D., & Pasiouras, F. (2011). Regulations, competition and bank risk-taking in transition countries. *Journal of Financial Stability, 7*(1), 38-48.

Ahmed, H. (2014). Islamic banking and Shari'ah compliance: a product development perspective. *Journal of Islamic finance, 3*(2), 15-29.

Ahmed, H. (2015). Basel III liquidity requirement ratios and Islamic banking. *Journal of Banking Regulation, 16(4),* 251–264.

Akerlof, G. A. (1970). The market for" lemons": Quality uncertainty and the market mechanism.*The Quarterly Journal of Economics*, *84*(3), 488-500.

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

Ali, S.S. Islamic Banking in the MENA Region, Financial Flagship Report. World Bank and Islamic Development Bank. Washington: World Bank; Jeddah: Islamic Development Bank: Islamic Research and Training Institute. 2011

Ali, S. S. (2013). State of liquidity management in Islamic financial institutions. *Islamic Economic Studies, 21(1),* 63–98.

Alijla, A., & Aghdam, M. M. (2017). Different Paths to Democracy in the MENA Region: A Configurational Comparative Analysis. *Journal of Political Sciences & Public Affairs*, *5(2)*, 1-13.

Al-Jarrah, I. M., Al-Abdulqader, K. S., & Hammoudeh, S. (2017). Cost-efficiency and financial and geographical characteristics of banking sectors in the MENA countries. *Applied Economics*, *49*(35), 3523-3537.

Al-khouri, R. (2012). Bank Characteristics and Liquidity Transformation : The Case of GCC Banks. *International Journal of Economics and Finance*, *4*(12), 114–120.

Al-khouri, R., & Arouri, H. (2019). Market power and the role of banks as liquidity providers in GCC markets. *Cogent Economics & Finance*, *7*(1), 1–17.

Allen, F., & Gale, D. (2004). Competition and financial stability. *Journal of Money, Credit & Banking*, *36*(3), 453-S453.

Allen, F., Hryckiewicz, A., Kowalewski, O., & Tümer-Alkan, G. (2014). Transmission of financial shocks in loan and deposit markets: Role of interbank borrowing and market monitoring. *Journal of Financial Stability*, *15(12)*, 112–126.

Allen, F., Jackowicz, K., Kowalewski, O., & Kozłowski, Ł. (2015). Bank lending, crises, and changing ownership structure in Central and Eastern European countries. *Journal of Corporate Finance*, *42(2)*, 494–515.

Almarzoqi, R., Naceur, M. S. Ben, & Scopelliti, A. (2015). *How does bank competition affect solvency, liquidity and credit risk? Evidence from the MENA countries*. Washington, DC: International Monetary Fund.

Alon, I., & McKee, D. (1999). Towards a macro environmental model of international franchising. *Multinational Business Review*, *7(1)*, 76.

Alqahtani, F., Mayes, D. G., & Brown, K. (2017). Economic turmoil and Islamic banking: Evidence from the Gulf Cooperation Council. *Pacific-Basin Finance Journal*, *42(4)*, 113–125.

Al-Shammari, N., & Willoughby, J. (2019). Determinants of political instability across Arab Spring countries. *Mediterranean Politics*, *24*(2), 196-217.

Altman, E. I., & Saunders, A. (1997). Credit risk measurement: Developments over the last 20 years. *Journal of Banking & Finance*, *21(11-12)*, 1721–1742.

Andrew Meola (2019 August 9). The future of retail, mobile, online, and digital-only banking technology. *Business Insider* Retrieved from www.businessinsider.com/banking-industry-trends

Anginer, D., Demirguc-Kunt, A., & Zhu, M. (2014). How does competition affect bank systemic risk? *Journal of Financial Intermediation*, *23(1)*, 1–26.

Angora, A., & Roulet, C. (2011). *Transformation risk and its determinants: A new approach based on the Basel III liquidity management framework*. *Universite de Limoges*. Limoges Cedex: Université de Limoges.

Anzoategui, D., Peria, M. S. M., & Rocha, R. R. (2010). Bank Competition in the Middle East and Northern Africa Region. *Review of Middle East Economics and Finance*, *6*(2), 26-48.

Arellano, C., Bai, Y., & Kehoe, P. (2012, March). Financial markets and fluctuations in uncertainty. Retrieved 15 March 2017 from https://www.albany.edu/economics/research/seminar/files/Yan%20Bai.pdf

Arif, A., & Anees, A. N. (2012). Liquidity risk and performance of banking system. *Journal of Financial Regulation and Compliance*, *20*(2), 182-195.

Ariffin, N. M. (2012). Liquidity risk management and financial performance in Malaysia: empirical evidence from Islamic banks. *Aceh International Journal of Social Science, 1(2)*. 77-84.

Arndt, S., Turvey, C., & Andreasen, N. C. (1999). Correlating and predicting psychiatric symptom ratings: Spearmans r versus Kendalls tau correlation. *Journal of psychiatric research*, *33*(2), 97-104.

Asea, P. K., & Blomberg, B. (1998). Lending cycles. *Journal of Econometrics*, *83*(1-2), 89-128.

Ashraf, D., Rizwan, M. S., & L'Huillier, B. (2016). A net stable funding ratio for Islamic banks and its impact on financial stability: An international investigation. *Journal of Financial Stability*, *25(8)*, 47-57.

Ashraf, Q., Gershman, B., & Howitt, P. (2011). Banks, market organization, and macroeconomic performance: an agent-based computational analysis. *Journal of Economic Behavior & Organization, 135(3)*, 143–180.

Awad, I. M., & Al Karaki, M. S. (2019). The impact of bank lending on Palestine economic growth: an econometric analysis of time series data. *Financial Innovation*, *5*(1), 1-21.

Ayadi R., Arbak E., Naceur S.B., De Groen W.P. (2015) Financial development, bank efficiency, and economic growth across the Mediterranean. In A. R., Dabrowski M., De Wulf L. (Eds.), *Economic and Social Development of the Southern and Eastern Mediterranean Countries* (pp. 219–233). Cham: Springer.

Badar, M., & Javid, A. Y. (2013). Impact of macroeconomic forces on nonperforming loans: An empirical study of commercial banks in Pakistan. *Wseas Transactions on Business and Economics*, *10(1)*, 40–48.

Baele, L., Farooq, M., & Ongena, S. (2014). Of religion and redemption: Evidence from default on Islamic loans. *Journal of Banking & Finance, 44(7)*, 141–159.

Bagehot, W. (1873). *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle (1912/1934)*. London: Scribner, Armstrong & Company.

Bai, J., Krishnamurthy, A., & Weymuller, C. H. (2018). Measuring liquidity mismatch in the banking sector. *The Journal of Finance, 73(1), 51-*, 51–93.

Balkan, E. M. (1992). Political instability, country risk and probability of default. *Applied Economics, 24(9),* 999–1008.

Barbuscia, D. (2019 October 28). IMF stress urgency of reforms in Lebanon to restore economic stability. *euronews*. Retrived from https://www.reuters.com/article/us-lebanon-protests-imf-iduskbn1x70cj

Basel Committee on Banking Supervision (2008). *Principles for Sound Liquidity Risk Management and Supervision*. Retrieved from:

https://www.bis.org/publ/bcbs144.htm

Baselga-Pascual, L., Trujillo-Ponce, A., & Cardone-Riportella, C. (2015). Factors influencing bank risk in Europe: Evidence from the financial crisis. *The North American Journal of Economics and Finance, 34(12),* 138–166.

Bassett, W. F., Chosak, M. B., Driscoll, J. C., & Zakrajšek, E. (2014). Changes in bank lending standards and the macroeconomy. *Journal of Monetary Economics, 62(3),* 23–40.

Beck, T., & Levine, R. (2004). Stock markets, banks, and growth: Panel evidence. *Journal of Banking & Finance, 28(3),* 423–442.

Beck, T., De Jonghe, O., & Schepens, G. (2013). Bank competition and stability: cross-country heterogeneity. *Journal of Financial Intermediation, 22(2),* 218–244.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2006). Bank concentration, competition, and crises: First results. *Journal of Banking & Finance*, *30*(5), 1581-1603.

Beck, T., Demirgüç-Kunt, A., & Merrouche, O. (2013). Islamic vs. conventional banking: Business model, efficiency and stability. *Journal of Banking and Finance*, *2*(37), 433-447.

Beck, T., Levine, R., & Loayza, N. (2000). Finance and the Sources of Growth. *Journal of Financial Economics, 58(1-2),* 261–300.

Bekaert, G., Harvey, C. R., Lundblad, C. T., & Siegel, S. (2014). Political risk spreads. *Journal of International Business Studies, 45(4),* 471–493.

Berger, A. N., & Bouwman, C. (2015). *Bank liquidity creation and financial crises*. London: Academic Press.

Berger, A. N., & Bouwman, C. H. (2009). Bank liquidity creation. *Review of Financial Studies*, *22*(9), 3779–3837.

Berger, A. N., & Bouwman, C. H. (2013). How does capital affect bank performance during financial crises?. *Journal of Financial Economics*, *109*(1), 146-176.

Berger, A. N., & Bouwman, C. H. S. (2017). Bank liquidity creation, monetary policy, and financial crises. *Journal of Financial Stability, 30(6),* 139–155.

Berger, A. N., & Sedunov, J. (2017). Bank liquidity creation and real economic output. *Journal of Banking & Finance, 81(8)*, 1–19.

Berger, A. N., Boubakri, N., Guedhami, O., & Li, X. (2019). Liquidity creation performance and financial stability consequences of Islamic banking: Evidence from a multinational study. *Journal of Financial Stability, 44(10)*, 100692.

Berger, A. N., Bouwman, C. H. S., Kick, T., & Schaeck, K. (2016). Bank liquidity creation following regulatory interventions and capital support. *Journal of Financial Intermediation, 26(4)*, 115–141.

Berger, A. N., Herring, R. J., & Szegö, G. P. (1995). The role of capital in financial institutions. *Journal of Banking and Finance, 3*(19), 393-430.

Berger, A. N., Klapper, L. F., & Turk-Ariss, R. (2017). 10 Bank competition and financial stability,Handbook of Competition in Banking and Finance. Cheltenham and Northampton: Edward Elgar Publishing.

Berger, A., Klapper, L., & Turk-Ariss, R. (2009). Bank Competition and Financial Stability. *Journal of Financial Services Research, 35*(2), 99-118.

Berger, A., Bouwman, C., Kick, T., Schaeck, K., (2010). Bank *Liquidity Creation and Risk Taking During Distress*. (Discussion Paper No. 05/2010 Deutsche Bundes bank). Retrieved from Deutsche Bundes bank website: https://www.econstor.eu/bitstream/10419/39790/1/634479857.pdf

Bernal-Verdugo, L. E., Furceri, D., & Guillaume, D. (2013). Banking crises, labor reforms, and unemployment. *Journal of Comparative Economics, 41(4)*, 1202–1219.

Bernanke, B. S. (1983). Irreversibility, uncertainty, and cyclical investment. *The Quarterly Journal of Economics, 98(1)*, 85–106.

Beseiso, F. H., (2014). *The Developing Role of Islamic Banking and Finance: From Local to Global Perspectives*. Bingley: Emerald Group Publishing Limited.

Bessis, J. (2011). *Risk management in banking*. New York: John Wiley & Sons.

Bhattacharya, S., & Thakor, A. V. (1993). Contemporary banking theory. *Journal of Financial Intermediation, 3(1)*, 2–50.

Bidabad, B., & Allahyarifard, M. (2019). Assets and liabilities management in Islamic banking. *International Journal of Islamic Banking and Finance Research*, *3*(2), 32-43.

Bielecki, T. R., & Rutkowski, M. (2013). *Credit risk: modeling, valuation and hedging*. Berlin: Springer Science & Business Media.

Bitar, M., Saad, W., & Benlemlih, M. (2016). Bank risk and performance in the MENA region: The importance of capital requirements. *Economic Systems, 40*(3), 398-421.

Blanchard, O., Dell'Ariccia, G., & Mauro, P. (2010). Rethinking macroeconomic policy. *Journal of Money, Credit and Banking, 42(1)*, 199-215.

Bloch, H., & Tang, S. H. K. (2003). The role of financial development in economic growth. *Progress in Development Studies, 3(3)*, 243–251.

Bloom, N. (2009). The impact of uncertainty shocks. *Econometrica, 77(3)*, 623–685.

Bonciani, D., & van Roye, B. (2016). Uncertainty shocks, banking frictions and economic activity. *Journal of Economic Dynamics and Control, 73(12)*, 200–219.

Bonner, C., Van Lelyveld, I., & Zymek, R. (2015). Banks' liquidity buffers and the role of liquidity regulation. *Journal of Financial Services Research, 48(3), 215*(393).

Boot, A. W. A., Greenbaum, S. I., & Thakor, A. V. (1993). Reputation and discretion in financial contracting. *The American Economic Review, 83(5)*, 1165–1183.

Bougatef, K., & Mgadmi, N. (2016). The impact of prudential regulation on bank capital and risk-taking: The case of MENA countries. *Spanish Review of Financial Economics, 14*(2), 51–56.

Boumediene, A. (2015). Financing government budget deficit as a liquidity risk mitigation tool for Islamic banks: a dynamic approach. *International Journal of Islamic and Middle Eastern Finance and Management, 8(3)*, 329–348.

Bourkhis, K., & Nabi, M. S. (2013). Islamic and conventional banks' soundness during the 2007–2008 financial crisis. *Review of Financial Economics, 22(2)*, 68–77.

Boutchkova, M., Doshi, H., Durnev, A., & Molchanov, A. (2012). Precarious politics and return volatility. *Review of Financial Studies, 25(4)*, 1111–1154.

Bouwman, C. H. S. (2014). *Liquidity : How Banks Create It and How It Should Be Regulated*. *The Oxford Handbook of Banking*. Oxford: Oxford university.

Boyd, J. H., & De Nicolo, G. (2005). The theory of bank risk taking and competition revisited. *The Journal of Finance, 60(3)*, 1329–1343.

Boyd, J. H., Levine, R., & Smith, B. D. (2001). The impact of inflation on financial sector performance. *Journal of Monetary Economics, 47(2)*, 221–248.

Bratton, M. *Civil society and political transition in Africa report.* Institute for Development Research (IDR). Addis Ababa: 1994

Bremmer, I., & Keat, P. (2009). *The fat tail: the power of political knowledge for strategic investing*. *OUP Catalogue*. New York: Oxford University Press, Inc.

Brewer, E., Deshmukh, S., & Opiela, T. P. (2014). Interest-rate uncertainty, derivatives usage, and loan growth in bank holding companies. *Journal of Financial Stability, 15(12)*, 230–240.

Brunnermeier, M. K. (2009). Deciphering the liquidity and credit crunch 2007–2008. *The Journal of Economic Perspectives, 23(1)*, 77–100.

Brunnermeier, M. K., & Pedersen, L. H. (2009). Market liquidity and funding liquidity. *Review of Financial Studies, 22(6)*, 2201–2238.

Brunnermeier, M., Gorton, G., & Krishnamurthy, A. (2014). Liquidity mismatch measurement. In M. Brunnermeier & A. Krishnamurthy (Eds.), *Risk Topography: Systemic Risk and Macro Modeling* (pp. 99-112). Chicago: University of Chicago Press.

Bryant, J. (1980). A model of reserves, bank runs, and deposit insurance. *Journal of Banking & Finance, 4(4)*, 335–344.

Buch, C. M., Eickmeier, S., & Prieto, E. (2014). Macroeconomic factors and microlevel bank behavior. *Journal of Money, Credit and Banking, 46(4)*, 715–751.

Busse, M., & Hefeker, C. (2007). Political risk, institutions and foreign direct investment. *European Journal of Political Economy, 23(2)*, 397–415.

Caglayan, M., & Xu, B. (2016). Sentiment volatility and bank lending behavior. *International Review of Financial Analysis, 45(5)*, 107–120.

Campante, F. R., & Chor, D. (2012). Why was the Arab world poised for revolution? Schooling, economic opportunities, and the Arab Spring. *The Journal of Economic Perspectives, 26(2)*, 167–187.

Campos, N. F., Karanasos, M. G., & Tan, B. (2012). Two to tangle: Financial development, political instability and economic growth in Argentina. *Journal of Banking & Finance, 36(1)*, 290–304.

Cawley, G. C., & Talbot, N. L. (2002). Improved sparse least-squares support vector machines. *Neurocomputing, 48*(1-4), 1025-1031.

Cecchetti, S. G., & Disyatat, P. (2010). Central bank tools and liquidity shortages. In K. D. Garbade (Ed.). *Economic Policy Review* (pp.29-40). New York: Federal Reserve Bank of New York.

Central Bank of Egypt (CBE), Annual Report 2017/2018; Central Bank of Egypt: Cairo.2018

Chaibi, H., & Ftiti, Z. (2015). Credit risk determinants: Evidence from a cross-country study. *Research in International Business and Finance, 33(1)*, 1–16.

Charafeddine, R. H., & du Liban, F. V. G. B. (2011). *The economic and financial impacts of the Arab awakening*. Massachusetts: Kennedy School of Government.

Chatterjee, U. K. (2018). Bank liquidity creation and recessions. *Journal of Banking & Finance, 90(5)*, 64–75.

Chau, F., Deesomsak, R., & Wang, J. (2014). Political uncertainty and stock market volatility in the Middle East and North African (MENA) countries. *Journal of International Financial Markets, Institutions and Money*, *28(1)*, 1-19.

Chava, S., & Purnanandam, A. (2011). The effect of banking crisis on bank-dependent borrowers. *Journal of Financial Economics*, *99(1)*, 116–135.

Chen, A. H., & Siems, T. F. (2004). The effects of terrorism on global capital markets. *European Journal of Political Economy*, *20(4)*, 349–366.

Chen, T.-H., Chou, H.-H., Chang, Y., & Fang, H. (2015). The effect of excess lending on bank liquidity: Evidence from China. *International Review of Economics & Finance*, *36(3)*, 54–68.

Chesney, M., Reshetar, G., & Karaman, M. (2011). The impact of terrorism on financial markets: An empirical study. *Journal of Banking & Finance*, *35*(2), 253-267.

Chi, Q., & Li, W. (2017). Economic policy uncertainty, credit risks and banks' lending decisions: Evidence from Chinese commercial banks. *China Journal of Accounting Research*, *10(1)*, 33–50.

Chiaramonte, L., & Casu, B. (2016). Capital and liquidity ratios and financial distress. Evidence from the European banking industry. *The British Accounting Review*, *49(2)*, 138–161.

Chong, B. S., & Liu, M.-H. (2009). Islamic banking: interest-free or interest-based? *Pacific-Basin Finance Journal*, *17(1)*, 125–144.

Christopher, R. O. (2009). The Impact of Macroeconomic Instability on the Banking Sector Lending Behaviour in Nigeria. *Journal of Money, Investment and Banking*, *7(10)*, 88–100.

Čihák, M., & Hesse, H. (2010). Islamic Banks and Financial Stability: An Empirical Analysis. *Journal of Financial Services Research*, *38(2-3)*, 95–113.

Coccorese, P. (2014). Estimating the *LERNER INDEX* for the banking industry: a stochastic frontier approach. *Applied Financial Economics*, *24(2)*, 73–88.

Cooray, A. V. (2009). Government expenditure , governance and economic growth. *Comparative Economic Studies*, *51(3)*, 401–418.

Cortes, C., Mohri, M., & Rostamizadeh, A. (2012). Algorithms for learning kernels based on centered alignment. *The Journal of Machine Learning Research*, *13*(1), 795-828.

Costalli, S., & Moro, F. N. (2019). Political transitions and macro-level foundations of political stability. *Ethnopolitics*, *18*(5), 462-477.

Coval, J. D., & Thakor, A. V. (2005). Financial intermediation as a beliefs-bridge between optimists and pessimists. *Journal of Financial Economics*, *75(3)*,

535–569.

Crockett, A. (2008). Market liquidity and financial stability. *Banque de France Financial Stability Review, 11(2)*, 13–17.

Croux, C., & Dehon, C. (2010). Influence functions of the Spearman and Kendall correlation easures. *Statistical methods & applications*, *19*(4), 497-515.

Crowley, M. J. (2008). *Credit Growth in the Middle East, North Africa, and Central Asia Region* (working paper No. 8-184). Retrieved from International Monetary Fund web site : https://www.imf.org/external/pubs/ft/wp/2008/wp08184.pdf

Cucinelli, D. (2015). The Impact of Non-performing Loans on Bank Lending Behavior : Evidence from the Italian Banking Sector. *Eurasian Journal of Business and Economics*, *8*(16), 59–71.

Dagher, J., & Kazimov, K. (2015). Banks ′liability structure and mortgage lending during the financial crisis. *Journal of Financial Economics*, *116(3)*, 565–582.

Davydov, D., Fungáčová, Z., & Weill, L. (2018). Cyclicality of bank liquidity creation. *Journal of International Financial Markets, Institutions and Money*, *55(7)*, 81–93.

De Haan, L., & van den End, J. W. (2013). Bank liquidity, the maturity ladder, and regulation. *Journal of Banking & Finance*, *37(10)*, 3930–3950.

De Mortanges, C. P., & Allers, V. (1996). Political risk assessment: Theory and the experience of Dutch firms. *International Business Review, 5(3)*, 303–318.

Deep, Akash and Schaefer, Guido K. (2004), *Are Banks Liquidity Transformers?* (Working paper No. 04-022). Retrieved from Harvard Kennedy School website: https://www.hks.harvard.edu/publications/are-banks-liquidity-transformers

Demirguc-Kunt, A., & Kane, E. J. (2002). Deposit insurance around the globe: where does it work?. *Journal of Economic Perspectives*, *16*(2), 175-195.

Demirguc-Kunt, A., Detragiache, E., & Merrouche, O. (2013). Bank capital: Lessons from the financial crisis. *Journal of Money, Credit and Banking*, *45*(6), 1147-1164.

Devarajan, S., & Mottaghi, L. (2014). *Middle East and North Africa Quarterly Economic Brief: Growth Slowdown Heightens the Need for Reforms*. Washington, DC: World Bank Publications.

Devarajan, Shantayanan, Mottaghi, Lili; Do, Quy-Toan, Abdel Jelil, M.(2016). *Syria: reconstruction for peace*. Retrieved from World Bank website: http://documents.worldbank.org/curated/en/777291467993169903/Syria-reconstruction-for-peace.

DeYoung, R., & Jang, K. Y. (2016). Do banks actively manage their liquidity?. *Journal of banking and finance*, *66*(5), 143-161.

Diamond, D. W. (1997). Liquidity, banks, and markets. *Journal of Political Economy, 105(5)*, 928–956.

Diamond, D. W., & Dybvig, P. H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy, 91(3), 401*.

Diamond, D. W., & Rajan, R. G. (2000). A theory of bank capital. *The Journal of Finance, 55(6)*, 2431–2465.

Diamond, D. W., & Rajan, R. G. (2001). Liquidity risk, liquidity creation, and financial fragility: A theory of banking. *Journal of Political Economy, 109(2)*, 287-327.

Diamond, D. W., & Rajan, R. G. (2005). Liquidity shortages and banking crises. *The Journal of finance*, *60*(2), 615-647.

Díaz, V., & Huang, Y. (2017). The role of governance on bank liquidity creation. *Journal of Banking & Finance, 77(4)*, 137–156.

Dietrich, A., Hess, K., & Wanzenried, G. (2014). The good and bad news about the new liquidity rules of Basel III in Western European countries. *Journal of Banking & Finance, 44(7)*, 13–25.

Dinç, I. S. (2005). Politicians and banks: Political influences on government-owned banks in emerging markets. *Journal of Financial Economics, 77(2)*, 453–479.

Distinguin, I., Roulet, C., & Tarazi, A. (2013). Bank regulatory capital and liquidity: Evidence from US and European publicly traded banks. *Journal of Banking & Finance, 37(9)*, 3295–3317.

Dolgun, M.H., Mirakhor, A. and Ng, A. (2019), "A proposal designed for calibrating the liquidity coverage ratio for Islamic banks". *ISRA International Journal of Islamic Finance*, Vol. 11 No. 1, pp. 82-97. https://doi.org/10.1108/IJIF-03-2018-0033

Drehmann, M., & Nikolaou, K. (2013). Funding liquidity risk: definition and measurement. *Journal of Banking & Finance*, *37*(7), 2173-2182.

Duchin, R., & Sosyura, D. (2014). Safer ratios, riskier portfolios: Banks ′response to government aid. *Journal of Financial Economics, 113(1)*, 1–28.

Duenwald, C., Gueorguiev, N., & Schaechter, A. (2007). Too much of a good thing? Credit booms in transition economies: The cases of Bulgaria, Romania, and Ukraine. In C., Enoch and I., Otker-robe (Eds.), *Rapid Credit Growth in Central and Eastern Europe* (pp. 236-263). London: Palgrave Macmillan, London.

Durafe, A., & Singh, M. (2016). Cyclical behavior of public and private sector banks: A comparative study of non-performing assets. Journal of Business and Management Research, 1(1), 14-25.

Duygan-Bump, B., Levkov, A., & Montoriol-Garriga, J. (2015). Financing constraints and unemployment: evidence from the Great Recession. *Journal of Monetary Economics*, *75(10)*, 89–105.

Duygan-Bump, B., Parkinson, P., Rosengren, E., Suarez, G. A., & Willen, P. (2013). How Effective Were the Federal Reserve Emergency Liquidity Facilities? Evidence from the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility. *The Journal of Finance*, *68(2)*, 715–737.

Duyvesteyn, J., Martens, M., & Verwijmeren, P. (2016). Political risk and expected government bond returns. *Journal of Empirical Finance*, *38(9)*, 498–512.

Eisazadeh, S., & Shaeri, Z. (2012). An analysis of bank efficiency in the Middle East and North Africa. *International Journal of Banking and Finance, 9*(4), 28-47.

El-Ansary, O., El-Masry, A. A., & Yousry, Z. (2019). Determinants of Capital Adequacy Ratio (CAR) in MENA Region: Islamic vs. Conventional Banks. *International Journal of Accounting and Financial Reporting*, *9*(2), 287-313.

Eldomiaty, T., Fikri, A., Mostafa, W., & Amer, H. H. M. (2015). The Financial Determinants of Operating Efficiency for Low and High Competitive Banks in Egypt. *Journal of Finance*, *3(2)*, 7–23.

El Khoury, R. (2018). The Impact of Bank Liquidity on the Lebanese Banks' Risk Taking Behavior. *Journal of International Business and Economics*, *6*(1), 12-28.

Evgeniou, T., Pontil, M., & Poggio, T. (2000). Regularization networks and support vector machines. *Advances in computational mathematics*, *13*(1), 1-50.

Farmer, R. E. (1985). Implicit contracts with asymmetric information and bankruptcy: The effect of interest rates on layoffs. *The Review of Economic Studies*, *52*(3), 427-442.

Farmer, R. E. (1988). Money and contracts. *The Review of Economic Studies*, *55*(3), 431-446.

Farooq, M., & Zaheer, S. (2015). Are Islamic banks more resilient during financial panics? *Pacific Economic Review, 20(1)*, 101–124.

Farroukh, A. (2013). Financial Integration, Banking Competition Changes and Financial Stability: The Case of the MENA Region. In M. Peeters, N. Sabri, W. Shahin (Eds.), *Financial Integration* (pp.173-193). Berlin: Springer.

Fazio, D. M., Tabak, B. M., & Cajueiro, D. O. (2015). Inflation targeting: Is IT to blame for banking system instability? *Journal of Banking & Finance*, *59(10)*,

76–97.

Ferwerda, J., Hainmueller, J., & Hazlett, C. J. (2014). Kernel-Based Regularized Least Squares. *Kernel Regularized Least Squares: Reducing Misspecification Bias with a Flexible and Interpretable Machine Learning Approach. Political Analysis*, *22(2)*, *143*.

Ferwerda, J., Hainmueller, J., & Hazlett, C. J. (2017). Kernel-based regularized least squares in R (KRLS) and Stata (krls). *Journal of Statistical Software*, *79*(3), 1-26.

Fidrmuc, J., Fungacova, Z., & Weill, L. (2015). Does Bank Liquidity Creation Contribute to Economic Growth. *Open Economies Review*, *26(3)*, *479*.

Financial Stability Board. *Global Monitoring Report on Non-Bank Financial Intermediation*; Financial Stability Board. financial stability board: Basel. 2018.

Finger, M. H., & Gressani, M. D. (2014). *Toward new horizons: Arab economic transformation amid political transition*. Washington, D.C: International Monetary Fund.

Francis, B. B., Hasan, I., & Zhu, Y. (2014). Political uncertainty and bank loan contracting. *Journal of Empirical Finance*, *29(12)*, 281–286.

Freixas, X., & Rochet, J. (2008). *Microeconomics of Banking*, the 2nd ed. London: The MIT Press.

Ftiti, Z., Nafti, O., & Sreiri, S. (2013). Efficiency of Islamic banks during subprime crisis: Evidence of GCC countries. *Journal of Applied Business Research*, *29(1)*, 285.

Fu, X. M., Lin, Y. R., & Molyneux, P. (2014). Bank competition and financial stability in Asia Pacific. *Journal of Banking & Finance*, *38(1)*, 64–77.

Fu, X. M., Lin, Y. R., & Molyneux, P. (2016). Bank capital and liquidity creation in Asia pacific. *Economic Inquiry*, *54(2)*, 966–993.

Fungáčová, Z., & Weill, L. (2012). Bank liquidity creation in Russia. *Eurasian geography and economics*, *53*(2), 285-299.

Fungáčová, Z., Herrala, R., & Weill, L. (2013). The influence of bank ownership on credit supply: Evidence from the recent financial crisis. *Emerging Markets Review*, *15(7)*, 136–147.

Fungáčová, Z., Solanko, L., & Weill, L. (2010). Market power in the Russian banking industry. *Economie internationale*, 124(4), 127-145.

Fungáčová, Z., Weill, L., & Zhou, M. (2017). Bank capital, liquidity creation and deposit insurance. *Journal of Financial Services Research*, *51(1)*, 97–123.

Fungacova, Zuzana, Rima Turk, and Laurent Weill (2015), *High liquidity creation and bank failures*. (Working paper No.15-103). Retrieved from International Monetary Fund website: www.imf.org/external/pubs/ft/wp/2015/wp15103.pdf

Gaibulloev, K., & Younas, J. (2016). Conflicts and domestic bank lending _ SpringerLink. *Public Choice*, *169(3)*, 315–331.

Garcia-de-Andoain, C., Heider, F., Hoerova, M., & Manganelli, S. (2016). Lending-of-last-resort is as lending-of-last-resort does: Central bank liquidity provision and interbank market functioning in the euro area. *Journal of Financial Intermediation*, *28(10)*, 32–47.

George, D., & Mallery, P. (2011). *SPSS for Windows step by step. A simple study guide and reference* (Ed12).London: Pearson Education

Gerlach, S., Peng, W., & Shu, C. (2005). "Macroeconomic conditions and banking performance in Hong Kong SAR: a panel data study," BIS Papers chapters. In Bank for International Settlements (Ed.), *Investigating the relationship between the financial and real economy* (pp. 481- 497). Basel: Bank for International Settlements.

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International journal of endocrinology and metabolism*, *10*(2), 486–489.

Gheeraert, L. (2014). Does Islamic finance spur banking sector development? *Journal of Economic Behavior & Organization*, *103(7)*, S4–S20.

Ghenimi, A., Chaibi, H., & Omri, M. A. B. (2017). The effects of liquidity risk and credit risk on bank stability: Evidence from the MENA region. *Borsa Istanbul Review, 17*(4), 238-248.

Ghosh, S. (2016). Political transition and bank performance: How important was the Arab Spring? *Journal of Comparative Economics*, *44(2)*, 372–382.

Gizycki, M. C. (2001). *The effect of Macroeconomic conditions on banks' risk and profitability*. Sydney: Reserve Bank of Australia.

Goldsmith, R. W. (1969). *Financial Structure and Development*. New Haven and London: Yale University Press.

Gonzales, J. E. (2009). The fundamentals of procyclicality of the financial system. BSP Economic Newsletter, 3(9), 1-5.

González, L. O., Razia, A., Búa, M. V., & Sestayo, R. L. (2017). Competition, concentration and risk taking in Banking sector of MENA countries. *Research in International Business and Finance, 42(12)*, 591-604.

Gopalan, R., Kadan, O., & Pevzner, M. (2012). Asset liquidity and stock liquidity. *Journal of Financial and Quantitative Analysis*, *47(2)*, 333–364.

Gorton, G., & Winton, A. (2017). Liquidity provision, bank capital, and the macroeconomy. *Ournal of Money, Credit and Banking*, *49(1)*, 5–37.

Gray, S., & Karam, M. P. D. (2013). *Monetary issues in the Middle East and North Africa region: A policy implementation handbook for central bankers*. Washington, D.C: International Monetary Fund.

Gray, S., Karam, M. P. D., & Ariss, R. T. (2014). *Are Banks Really Lazy? Evidence from Middle East and North Africa*. (Working paper No.14-135). Retrieved from (International Monetary fund IMF) website:

https://www.imf.org/external/pubs/ft/wp/2014/wp1486.pdf

Greenbaum, S. I., Thakor, A. V, & Boot, A. (2015). *Contemporary financial intermediation*. San Diego: Academic Press.

Gregoriou, A., Gupta, J., & Healy, J. (2016). Does Islamic banking increase the liquidity of stocks? An application to the Kingdom of Bahrain. *Journal of International Financial Markets, Institutions and Money*, *42(5)*, 132–138.

Gropp, R., Gruendl, C., & Guettler, A. (2013). The impact of public guarantees on bank risk-taking: evidence from a natural experiment. *Review of Finance*, *18(2)*, 457–488.

Gurley, J. G., & Shaw, E. S. (1960). *Money in a Theory of Finance*. North-Holland: Brookings Inst Press.

Halling, M., Pichler, P., & Stomper, A. (2016). The politics of related lending. *Journal of Financial and Quantitative Analysis*, *51(1)*, 333–358.

Hainmueller, J., & Hazlett, C. (2014). Kernel regularized least squares: Reducing misspecification bias with a flexible and interpretable machine learning approach. *Political Analysis, 22(2)*, 143-168.

Hanif, M. (2014). Differences and similarities in Islamic and conventional banking. *International Journal of Business and Social Sciences*, *2*(2), 166-175.

Haque, F., & Brown, K. (2017). Bank ownership, regulation and efficiency: Perspectives from the Middle East and North Africa (MENA) Region. *International Review of Economics & Finance*, *47(1)*, 273–293.

Hassler, J. A. A. (1996). Variations in risk and fluctuations in demand: A theoretical model. *Journal of Economic Dynamics and Control*, *20(6-7)*, 1115–1143.

Hassan, M. K. (1993). The off-balance sheet banking risk of large US commercial banks. *The Quarterly Review of Economics and Finance*, *33*(1), 51-69.

Hauck, A., & Vollmer, U. (2013). Emergency liquidity provision to public banks: Rules versus discretion. *European Journal of Political Economy, 32(12)*, 193–204.

Heffernan, S. (2005). *Modern banking*. Chichester: John Wiley & Sons.

He, Z., & Xiong, W. (2012). Rollover risk and credit risk. *The Journal of Finance*, *67(2)*, 391–430.

Herrala, R., & Turk-Ariss, R. (2016). Capital accumulation in a politically unstable region. *Journal of International Money and Finance*, *64(6)*, 1–15.

Shijaku, G. (2017). Does Concentration Matter for Bank Stability? Evidence from the Albanian Banking Sector. *Journal of Central Banking Theory and Practice*, *6*(3), 67-94.

Holmström, B., & Tirole, J. (1998). Private and public supply of liquidity. *Journal of Political Economy*, *106(1)*, 1–40.

Holmström, B., & Tirole, J. (2001). LAPM: A liquidity-based asset pricing model. *The Journal of Finance*, *56(5)*, 1837–1867.

Horváth, R., Seidler, J., & Weill, L. (2014). Bank capital and liquidity creation: Granger-causality evidence. *Journal of Financial Services Research*, *45(3)*, 341–361.

Horvath, R., Seidler, J., & Weill, L. (2016). How bank competition influences liquidity creation. *Economic Modelling*, *52(1)*, 155–161.

Huybens, E., & Smith, B. D. (1998). Financial market frictions, monetary policy, and capital accumulation in a small open economy. *Journal of Economic Theory*, *81*(2), 353-400.

Huybens, E., & Smith, B. D. (1999). Inflation, financial markets and long-run real activity. *Journal of Monetary Economics*, *43(2)*, 283–315.

Ianchovichina, E., & Mottaghi, L. (2013). *Middle East and North Africa Region: Sustaining the Recovery and Looking Beyond*. Washington D C: World Bank.

Imbierowicz, B., & Rauch, C. (2014). The relationship between liquidity risk and credit risk in banks. *Journal of Banking & Finance*, *40(3)*, 242–256.

International Monetary Fund, *Financial System Soundness*; International Monetary Fund: Washington, D.C. 2019

International Monetary Fund. *Regional economic outlook : Middle East and Central Asia*; International Monetary Fund: Washington, D.C. 2010

International Monetary Fund. *Regional Economic Outlook, October 2016, Middle East and Central Asia*; International Monetary Fund: Washington, D.C. 2016

Iqbal, M., & Molyneux, P. (2005). *Thirty Years of Islamic Banking: Theory and Practice*. London: Palgrave Macmillan.

Islamic Financial Services Board (IFSB), Islamic financial services industry stability report (2018); Islamic Islamic Financial Serves: Board Kuala Lumpur. 2018

Islamic Financial Services Board (IFSB), Islamic financial services industry stability report (2015); Islamic Financial Serves Board: Kuala Lumpur. 2015

Islamic Financial Servic Board (IFSB),Islamic financial services industry stability report (2016); Islamic Financial Serves Board: Kuala Lumpur. 2016

Issa, S. (2020). Life after Debt: The Effects of Overleveraging on Conventional and Islamic Banks. Journal of Risk and Financial Management, 13(6), 137.

Iwanicz-Drozdowska, M., Bongini, P., Smaga, P., & Witkowski, B. (2019). The role of banks in CESEE countries: exploring non-standard determinants of economic growth. *Post-Communist Economies*, *31*(3), 349-382.

Jackowicz, K., Kowalewski, O., & Kozłowski, Ł. (2013). The influence of political factors on commercial banks in Central European countries. *Journal of Financial Stability*, *9(4)*, 759–777.

Jarque, C. M., & Bera, A. K. (1987). A test for normality of observations and regression residuals. *International Statistical Review/Revue Internationale de Statistique*, 55(2), 163-172.

Jiang, L., Levine, R., & Levine, R. (2019). Competition and bank liquidity creation. *Journal of Financial and Quantitative Analysis*, *54(2)*, 513–538.

Jianhua, Z., & Peng, W. (2012). Bank Risk Taking, Bank Loans, and Legal Protection. *Economic Research Journal*, *5(12)*, 18-30.

Jokipii, T., & Monnin, P. (2013). The impact of banking sector stability on the real economy. *Journal of International Money and Finance*, *32(2)*, 1–16.

Kapan, T., & Minoiu, C. (2014). Liquidity shocks and the supply of credit after the 2007–2008 crisis. *International Journal of Finance & Economics*, *19(1)*, 12–23.

Kamrava, M. (2012). The Arab Spring and the Saudi-led counterrevolution. *Orbis*, *56*(1), 96-104.

Karshenas, M., Moghadam, V. M., & Alami, R. (2014). Social Policy after the Arab Spring: States and Social Rights in the MENA Region. *World Development*, *64(12)*, 726–739.

Kashyap, A. K., Rajan, R., & Stein, J. C. (2002). Banks as liquidity providers: An explanation for the coexistence of lending and deposit-taking. *The Journal of Finance*, *57(1)*, 33–73.

Kasman, S., & Kasman, A. (2015). Bank competition, concentration and financial stability in the Turkish banking industry. *Economic Systems*, *39*(3), 502-517.

Keeley, M. C. (1990). Deposit insurance, risk, and market power in banking. *The American Economic Review, 80(5),* 1183–1200.

Khaddafi, M., Falahuddin, F., Heikal, M., & Nandari, A. (2017). Analysis *Z-SCORE* to predict bankruptcy in banks listed in Indonesia stock exchange. *International Journal of Economics and Financial Issues*, *7*(3), 326.

Khan, F. (2010). How 'Islamic' is Islamic banking?. *Journal of economic behavior & organization*, *76*(3), 805-820.

Khan , M.S.,& Miller. Elissa.(2017 June 19).Why Inflation is so high in Egypt. Retrieved from https://www.atlanticcouncil.org/blogs/menasource/why-inflation-is-so-high-in-egypt/

Khan, M. S., Scheule, H., & Wu, E. (2017). Funding liquidity and bank risk taking. *Journal of Banking and Finance*, *82(9),* 203–216.

Khediri, K. Ben, Charfeddine, L., & Youssef, S. Ben. (2015). Islamic versus conventional banks in the GCC countries: A comparative study using classification techniques. *Research in International Business and Finance*, *33(1),* 75–98.

Kim, D., & Sohn, W. (2017). The effect of bank capital on lending: Does liquidity matter? *Journal of Banking & Finance*, *77(4),* 95–107.

Kim, H. Y. (2013). Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restorative dentistry & endodontics*, *38*(1), 52-54.

Kim, T. H., & White, H. (2004). On more robust estimation of skewness and kurtosis. *Finance Research Letters, 1(1),* 56-73.

King, M. R. (2013). The Basel III net stable funding ratio and bank net interest margins. *Journal of Banking & Finance*, *37(11),* 4144–4156.

Koetter, M., & Wedow, M. (2010). Finance and growth in a bank-based economy: Is it quantity or quality that matters? *Journal of International Money and Finance*, *29(8),* 1529–1545.

Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics, 93(2),* 259–275.

Le, Q. V., & Zak, P. J. (2006). Political risk and capital flight. *Journal of International Money and Finance*, *25(2),* 308–329.

Lei, A. C., & Song, Z. (2013). Liquidity creation and bank capital structure in China. *Global Finance Journal*, *24(3),* 188–202.

Leland, H. E., & Pyle, D. H. (1977). Informational asymmetries, financial structure, and financial intermediation. *The journal of Finance*, *32*(2), 371-387.

Lensink, R., Hermes, N., & Murinde, V. (2000). Capital flight and political risk. *Journal of International Money and Finance, 19(1),* 73–92.

Lepetit, L., & Strobel, F. (2013). Bank insolvency risk and time-varying *Z-SCORE* measures. *Journal of International Financial Markets, Institutions and Money, 25(7),* 73–87.

Leroy, A. (2014). Competition and the bank lending channel in Eurozone. *Journal of International Financial Markets, Institutions and Money, 31(7),* 296–314.

Levine, R., & Zervos, S. (1998). Stock markets, banks, and economic growth. *American Economic Review, 88(3),* 537–558.

Li, B., Xiong, W., Chen, L., & Wang, Y. (2017). The impact of the liquidity coverage ratio on money creation: A stock-flow based dynamic approach. *Economic Modelling, 67(12),* 193-202.

Kabbani. Nadder. (2019, February 1). Youth employment in the Middle East and North Africa_ Revisiting and reframing the challenge1. *Brookings*. Retrieved from https://www.brookings.edu/research/youth-employment-in-the-middle-east-and-north-africa-revisiting-and-reframing-the-challenge/

Lindgren, C.-J., Garcia, G. G., & Saal, M. I. (1996). *Bank soundness and macroeconomic policy*. Washington D C: International Monetary Fund.

Lotan, G., Graeff, E., Ananny, M., Gaffney, D., & Pearce, I. (2011). The Arab Spring| the revolutions were tweeted: Information flows during the 2011 Tunisian and Egyptian revolutions. *International Journal of Communication, 5(5),* 1375-1405.

Louzis, D. P., Vouldis, A. T., & Metaxas, V. L. (2012). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios. *Journal of Banking & Finance, 36(4),* 1012–1027.

Love, I., & Ariss, R. T. (2014). Macro-financial linkages in Egypt: A panel analysis of economic shocks and loan portfolio quality. *Journal of International Financial Markets, Institutions and Money, 28(1),* 158–181.

Madura, J. (2020). *International financial management* (10th ed.). Mason: Cengage Learning.

Makri, V., & Papadatos, K. (2016). Determinants of Loan Quality: Lessons from Greek Cooperative Banks. *Review of Economic and Business Studies, 9(1),* 115–140.

Mare, D. S. (2015). Contribution of macroeconomic factors to the prediction of small bank failures. *Journal of International Financial Markets, Institutions and Money, 39(11),* 25–39.

Markussen, T. (2006). US politics and World Bank IDA-lending. *The Journal of Development Studies*, *42(5)*, 772–794.

Marques, M. L. B., Correa, M. R., & Sapriza, M. H. (2013). *International evidence on government support and risk taking in the banking sector*. Washington D C: International Monetary Fund.

Mésonnier, J.-S., & Monks, A. (2015). Did the EBA Capital Exercise Cause a Credit Crunch in the Euro Area? *International Journal of Central Banking*, *11(3)*, 75–117.

Messai, A. S., & Jouini, F. (2013). Micro and macro determinants of non-performing loans. *International Journal of Economics and Financial Issues*, *3(4)*, 852.

Mian, A., & Sufi, A. (2014). What explains the 2007–2009 drop in employment? *Econometrica*, *82(6)*, 2197–2223.

Mnif, A. T. (2017). Political uncertainty and behavior of Tunisian stock market cycles: Structural unobserved components time series models. *Research in International Business and Finance*, *39(1)*, 206–214.

Mohamad, A. A. S., Mohamad, M. T., & Samsudin, M. L. (2013). How Islamic banks of Malaysia managing liquidity? an emphasis on confronting economic cycles. *International Journal of Business and Social Science*, *4(7)*, 253-263.

Mohammad, S. (2014). *Liquidity Creation and Liquidity Risk Exposures in the Islamic , Conventional and Hybrid Banks in the Gul*f (Doctoral dissertation). Durham Universit Durham, United Kingdom

Mongid, A. (2016). Global Financial Crisis (GFC) and Islamic Banks Profitability: Evidence From MENA Countries. *Journal of Emerging Economics and Islamic Research*, *4*(1), 1-16.

Mounira, B. E. N. A., & Anas, E. (2009). Managing risks and liquidity in an interest free banking framework: the case of the Islamic banks. *International Journal of Business and Management*, 3(9), 80-95.

Moussa, M. A. Ben. (2015). The determinants of bank liquidity: case of Tunisia. *International Journal of Economics and Financial Issues*, *5(1)*, 249–259.

Munnell, A. H., Tootell, G. M., Browne, L. E., & McEneaney, J. (1996). Mortgage lending in Boston: Interpreting HMDA data. *The American Economic Review*, *86(1)*, 25-53.

Munteanu, I. (2012). Bank liquidity and its determinants in Romania. *Procedia Economics and Finance*, *3(2012)*, 993–998.

Naceur, M. S. Ben, & Kandil, M. M. E. (2013). *Basel capital requirements and credit crunch in the MENA region*. Washington D C: International Monetary Fund.

Naceur, S. B., Cherif, M., & Kandil, M. (2014). What drives the development of the MENA financial sector?. *Borsa Istanbul Review, 14*(4), 212-223.

Neaime, S. (2012). The global financial crisis, financial linkages and correlations in returns and volatilities in emerging MENA stock markets. *Emerging Markets Review, 13(3), 268.*

Nikolaou, K. (2009). *Liquidity (risk) concepts: definitions and interactions*. Frankfurt, European Central Bank.

Nini, G., Smith, D. C., & Sufi, A. (2012). Creditor control rights, corporate governance, and firm value. *The Review of Financial Studies, 25*(6), 1713-1761.

Nor, A. M., & Ismail, S. (2020). Profit and Loss Sharing (PLS) and Non-PLS Financing in Malaysia: Which One Should Be the One? *KnE Social Sciences, 2020(3),* 14-25.

Osborne, M., Fuertes, A. M., & Milne, A. (2017). In good times and in bad: Bank capital ratios and lending rates. *International Review of Financial Analysis, 51(2017),* 102-112. doi: 10.1016/j.irfa.2016.02.005

O'Sullivan, A., Rey, M. E., and Mendez, J. G. (2011). *Opportunities and challenges in the MENA region* (Working Paper, *No. 11-2011).* Retrieved from Organization for Economic Cooperation and Development (OECD) website: http://www.oecd.org/mena/49036903.pdf

Ofori-Abebrese, G., Pickson, R. B., & Opare, E. (2016). Macroeconomic Factors and the Performance of Loans of Commercial Banks in Ghana: A Case Study of HFC Bank. *European Journal of Economics, Finance and Administrative Sciences, 87(7),* 38-46

Olson, D., & Zoubi, T. (2017). Convergence in bank performance for commercial and Islamic banks during and after the Global Financial Crisis. *The Quarterly Review of Economics and Finance, 65(8), 71–87.*

Olson, D., & Zoubi, T. A. (2011). Efficiency and bank profitability in MENA countries. *Emerging Markets Review, 12(2),* 94–110.

Ongore, V. O., & Kusa, G. B. (2013). Determinants of financial performance of commercial banks in Kenya. *International Journal of Economics and Financial Issues, 3(1),* 237–252.

Opoku-Agyemang, K. A. (2017). Priming human-computer interactions: Experimental evidence from economic development mobile surveys. *Available at SSRN 2957641.* http://dx.doi.org/10.2139/ssrn.2957641

Pana, E., Park, J., & Query, T. (2010). The impact of bank mergers on liquidity creation. *Journal of Risk Management in Financial Institutions, 4*(1), 74-96.

Pappas, V., Ongena, S., Izzeldin, M., & Fuertes, A.-M. (2017). A survival analysis of Islamic and conventional banks. *Journal of Financial Services Research, 51(2)*, 221–256.

Park, H. M. (2015). Univariate analysis and normality test using SAS, Stata, and SPSS. Retrived on 2019 September 15 from http://www.cef-cfr.ca/uploads/Reference/sasnormality.pdf

Pástor, Ľ., & Veronesi, P. (2013). Political uncertainty and risk premia. *Journal of Financial Economics, 110(3)*, 520–545.

Pastor, L., & Veronesi, P. (2012). Uncertainty about government policy and stock prices. *The journal of Finance*, *67*(4), 1219-1264.

Petersen, M. A., & Rajan, R. G. (1995). The effect of credit market competition on lending relationships. *The Quarterly Journal of Economics*, *110*(2), 407–443.

Quagliariello, M. (2008). Does macroeconomy affect bank stability? A review of the empirical evidence. *Journal of Banking Regulation, 9(2)*, 102–115.

Rahim, S. R. M., & Zakaria, R. H. (2013). Comparison on stability between Islamic and conventional banks in Malaysia. *Journal of Islamic Economics, Banking and Finance, 113(915)*, 131–149.

Rajhi, W., & Hassairi, S. A. (2013). Islamic banks and financial stability: a comparative empirical analysis between MENA and southeast Asian countries. *Région et Développement, 37(1)*, 149–177.

Rauch, C., Steffen, S., Hackethal, A., & Tyrell, M. (2010). Determinants of bank liquidity creation. *Available at SSRN 1343595*. http://dx.doi.org/10.2139/ssrn.1343595

Richardson, G. (2007). Categories and causes of bank distress during the great depression, 1929–1933: The illiquidity versus insolvency debate revisited. *Explorations in Economic History*, *44(4)*, 588–607.

Rifkin, R., Yeo, G., & Poggio, T. (2003). Regularized least-squares classification. In Suykens, J.A.K., Horvath, I., Basu, S., Micchelli, C., Vandewalle, J. (Eds), *Advances in Learning Theory: Methods, Model and Applications* (pp 131–153). New York: PLENUM Publishing Corporation

Robinson, J. (1952). *The Generalisation of the General Theory, in the Rate of Interest, and Other Essays*. London.: Macmillan.

Robock, S. H. (1971). Political risk-identification and assessment. *Columbia Journal of World Business, 6(4)*, 6–20.

Roman, A., & Sargu, A. C. (2015). The impact of bank-specific factors on the commercial banks liquidity: Empirical evidence from CEE countries. *Procedia Economics and Finance, 20(2015)*, 571–579.

Rother, M. B., Pierre, M. G., Lombardo, D., Herrala, R., Toffano, M. P., Roos, M. E., Manasseh, M. K. (2016). *The Economic Impact of Conflicts and the Refugee Crisis in the Middle East and North Africa*. Washington: International Monetary Fund.

Saeed, M., & Izzeldin, M. (2016). Examining the relationship between default risk and efficiency in Islamic and conventional banks. *Journal of Economic Behavior & Organization*, *132*, 127–154.

Sahyouni, A., & Wang, M. (2019). Liquidity creation and bank performance : evidence from MENA. *ISRA International Journal of Islamic Finance.*, *11*(1), 27–45.

Salas, V., & Saurina, J. (2002). Credit risk in two institutional regimes: Spanish commercial and savings banks. *Journal of Financial Services Research*, *22(3)*, 203–224.

Sapienza, P. (2004). The effects of government ownership on bank lending. *Journal of Financial Economics*, *72(2)*, 357–384.

Saunders, C., Gammerman, A. & Vovk, V. (1998). Ridge regression learning algorithm in dual variables. In Jude W. Shavlik (Eds.), Proceedings from *Proceedings of the Fifteenth International Conference on Machine Learning (pp* 515-521). Madison, USA: Morgan Kaufmann

Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: appropriate use and interpretation. *Anesthesia & Analgesia*, *126*(5), 1763-1768.

S Schumpeter, J. A. (1982). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle (1912/1934)*. New Jersey: Transaction publishers.

Sharma, KK (2016). Chart alert: MENA NPLs to gross loans ratio lower than South Asia but higher than World average. Retrieved 2020 July 20 from https://www.algorithm-research.com/post/chart-alert-mena-npl-to-gross-loans-ratio-lower-than-south-asia-but-higher-than-world-average

Singh, A., & Sharma, A. K. (2016). An empirical analysis of macroeconomic and bank-specific factors affecting liquidity of Indian banks. *Future Business Journal*, *2(1)*, 40–53.

Sinha, T. A. P. E. N. (2001). The role of financial intermediation in economic growth: Schumpeter. In S. B. Dahiya and V. Orati (Eds.), *Economic Theory in the light of Schumpeter's Scientific* (pp 63-70) Heritage, India: Spellbound Publishers.

Smales, L. A. (2014). Political uncertainty and financial market uncertainty in an Australian context. *Journal of International Financial Markets, Institutions and Money*, *32(9)*, 415–435.

Smolo, E., & Mirakhor, A. (2010). The Global Financial Crisis and Its Implications for The Islamic Financial Industry. International Journal of Islamic and Middle Easterb Finance, 3(4), 372-385.

http://dx.doi.org/10.1108/17538391011093306.

Somoye, R. O. C., & Ilo, B. M. (2009). The impact of macroeconomic instability on the Banking sector lending behaviour in Nigeria. *Journal of Money, Investment and Banking*, *7*(10), 88-100.

Sorwar, G., Pappas, V., Pereira, J., & Nurullah, M. (2016). To debt or not to debt: are Islamic banks less risky than conventional banks? *Journal of Economic Behavior & Organization*, *132(12)*, 113–1.

Sulub, Y. A., & Salleh, M. C. M. (2019). Financial Performance of Islamic and Conventional Banks in Malaysia: A Comparative Analysis. *International Journal of Management and Applied Research*, *6*(4), 375-385.

Al-Shahomy. Suliman S. (2016 June 10). Cash liquidity crisis in Libyan commercial banks. *Libya Prospect*. Retrieved from http://libyaprospect.com/index.php/2016/01/13/cash-liquidity-crisis-in-libyan-commercial-banks/

Tabash, M. I., & Dhankar, R. S. (2014). The impact of global financial crisis on the stability of Islamic banks: An empirical evidence. *Journal of Islamic Banking and Finance*, *2*(1), 367-388.

Talavera, O., Tsapin, A., & Zholud, O. (2012). Macroeconomic uncertainty and bank lending: the case of Ukraine. *Economic Systems*, *36(2)*, 279–293.

Thakor, A. V. (2005). Do loan commitments cause overlending?. *Journal of Money, Credit and Banking*,37(6) 1067-1099.

Thakor, A. V. (2014). Bank Capital and Financial Stability: An Economic Trade-Off or a Faustian Bargain? *Annu. Rev. Financ. Econ.*, *6(1)*, 185–223.

The World Bank. (2019). Worldwide Governance Indicators. Retrieved 2018 October 1, from https://databank.worldbank.org/source/worldwide-governance-indicators

The World Bank. (2020). Worldwide Governance Indicators. Retrieved 2020 September 23, https://data.imf.org/?sk=E5DCAB7E-A5CA-4892-A6EA-598B5463A34C&sId=1412015057755

The Economist Intelligence Unit, *Democracy Index 2019 a year of democratic setbacks and popular protes*t, Economist Group: London. 2019.

Thinkers, G., & Series, E. (2008). *Dennis Robertson.* New York: Palgrave Macmillan.

Trad, N., Trabelsi, M. A., & Goux, J. F. (2017). Risk and profitability of Islamic banks: A religious deception or an alternative solution? *European Research on Management and Business Economics*, *23(1)*, 40 45.

Tran, Vuong Thao, Chien-Ting Lin, and H. N., Lin, C.-T., & Nguyen, H. (2016). Liquidity creation, regulatory capital, and bank profitability. *International*

Review of Financial Analysis, *48(12)*, 98–109.

Trenca, I., Petria, N., & Corovei, E. A. (2015). Impact of Macroeconomic Variables upon the Banking System Liquidity. *Procedia Economics and Finance*, *32(2015)*, 1170–1177.

Trinugroho, I., Muthmainah, M., Ariefianto, M. D., Sutaryo, S., & Probohudono, A. N. (2016). Deposit insurance and bank liquidity: does ownership structure matter?. *Indonesian Capital Market Review, 8(7),* 59–71.

Turak, N. (2019 January 30). Iraq's massive 2019 budget still fails to address reform needs, experts' say. *cnbc*. Retrieved from https://www.cnbc.com/2019/01/30/iraqs-massive-2019-budget-still-fails-to-address-reform-needs.html

Turk-Ariss, R. (2009). Competitive behavior in Middle East and North Africa banking systems. *The Quarterly Review of Economics and Finance*, *49(2)*, 693–710.

Umar, M., & Sun, G. (2016). Non-performing loans (*NPLs*), liquidity creation, and moral hazard: Case of Chinese banks. *China Finance and Economic Review*, *4*(1), 1-23.

United Nations. *Inter-agency Task Force on Financing for Development, Financing for Sustainable Development Report*; United Nations: NewYork, 2019.

Van Vaerenbergh, S., Lázaro-Gredilla, M., & Santamaría, I. (2012). Kernel recursive least-squares tracker for time-varying regression. *IEEE transactions on neural networks and learning systems*, *23*(8), 1313-1326.

Vazquez, F., & Federico, P. (2015). Bank funding structures and risk: Evidence from the global financial crisis. *Journal of Banking & Finance, 61(12)*, 1–14.

Vithessonthi, C. (2016). Deflation, bank credit growth, and non-performing loans: Evidence from Japan. *International Review of Financial Analysis*, *45(5)*, 295–305.

Vodová, P. (2013). Determinants of commercial bank liquidity in Hungary. *Finansowy Kwartalnik Internetowy e-Finanse*, *9*(4), 64-71.

Vodova, P. (2011). Liquidity of Czech commercial banks and its determinants. *International Journal of Mathematical Models and Methods in Applied Sciences*, *5(6)*, 1060–1067.

Wagner, W. (2010). Loan market competition and bank risk-taking. *Journal of Financial Services Research*, *37(1)*, 71–81.

Waisman, M., Ye, P., & Zhu, Y. (2015). The effect of political uncertainty on the cost of corporate debt. *Journal of Financial Stability*, *16(2)*, 106–117.

Welsh, H. A. (1994). Political transition processes in Central and Eastern Europe. *Comparative Politics*, 26(4), 379-394.

Went, P. (2010). *Status of the Basel III Capital Adequacy Accord - Walter W*. Darby: Diane publishing.

West, G. T. (1996). Managing project political risk: the role of investment insurance. *Journal of Project Finance*, *2(4)*, 5–11.

Winckler, O. (2013). The "Arab spring": socioeconomic aspects. *Middle East Policy*, *20*(4), 68-87

Xie, W. (2016). The empirical study on the relationship between bank liquidity creation and capital—Based on empirical data from 2004 to 2014 in Chinese Banks. *Modern Economy*, *7*(4), 426.

Yang, J., & Shao, H. (2016). Impact of bank competition on the bank lending channel of monetary transmission: Evidence from China. *International Review of Economics & Finance*, 43*(5)*, 468–481.

Yusuf, S. (2014). *Middle East Transitions: A Long, Hard Road*. (Working paper No. 14-135). Retrieved 30 April, 2017 from International Monetary Fund website: https://www.imf.org/external/pubs/ft/wp/2014/wp14135.pdf

Zainol, Z., & Kassim, S. H. (2010). An analysis of Islamic banks' exposure to rate of return risk. *Journal of Economic Cooperation and Development*, *31*(1), 59-84.

Zhang, D., Cai, J., Dickinson, D. G., & Kutan, A. M. (2016). Non-performing loans, moral hazard and regulation of the Chinese commercial banking system. *Journal of Banking & Finance*, *63(2)*, 48–60.

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LIST OF PUBLICATIONS

Abraheem, N., Yahya, M. H., Muhammad, J., & Ab Razak, N. H. (2020). Liquidity Creation and Competition in the Banking Industry Pre and Post Arab Spring in Mena Region. *Academy of Accounting and Financial Studies Journal*, *24*(1), 1-20.

Nagea Abraheem; M.H.Yahya; Junaina Mohammad; N.H. Ab. Razak (In press). The effect of political risk and bank specific factors on liquidity creation in MENA countries vis-à-vis Arab Spring. *Journal of international financial research.*

Conferences

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