Reports
2022; 2(1): 22-31
http://www.sciencepublishinggroup.com/j/reports
doi: 10.11648/j.reports.20220201.14

The Factors Influencing to Financing Stability of Banking Industry: In Case of Central Asian Countries

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To cite this article:

Ziyodilloev Khushnud, Zhou Qingjie. The Factors Influencing to Financing Stability of Banking Industry: In Case of Central Asian Countries. *Reports.* Vol. 2, No. 1, 2022, pp. 22-31. doi: 10.11648/j.reports.20220201.14

Received: January 6, 2022; **Accepted**: January 27, 2022; **Published**: March 18, 2022

Abstract: Five countries – Central Asia (CA) include different ethnically and culturally countries. Data showed that they have followed in the past period different paths to financial stability, it is important to mention all five countries achieving independence from Soviet Union 29 years ago. Many research papers conducted in Central Asia, interesting research study because countries are landlocked have historic legacy, also including seven decades of communist rule and central planning [26]. In fact that in this area no comprehensive investigation conducted in in Central Asia to illustrate financial stability. This paper focus on the field of financial stability measurement and its policies which would be valuable data for banks, investigate to Financial Stability Indicators (FSIs) in banking system of Central Asian countries and compared with advanced economies in terms of measurement indicators as well. The research paper analyzed main stability indicators, such as capital adequacy, liquidity, profitability, other additional indicators in sector of Central Asian banks and developed countries during 2005-2015. Research paper found that failures in banking could cause severe outcomes. In western countries, although the banking system has significant advantages over Asian banking both in quality and quantity there are some prevailing risks. These risks in financial stability include so-called systematic risk problems, stock crash risk, the problem of financial stress prediction, moral hazard and others. We found in this research area the majority of Banks' loan given to long time and capacity of commercial institutions is to finance the real economy is not sufficient in CA, despite high rate of growth of financial stability statistics; on other side, their ratio to GDP remains inadequate. Data indicated that banks in CA has higher interest spread rate than developed countries, which was 3 times bigger. Central Asian countries have advantageous sides, such as satisfying Basel III capital and liquidity requirements. In terms of capital adequacy indicators, regulatory capital to risk weighted assets and this ratio is higher in Central Asia than advanced countries. The profitability indicators are positive among these countries and also it is necessary to note that Banks of all five countries reduce loans which named nonperforming in total loans in CA. Findings showed advanced countries have higher capital and better ratios in most financial stability measurement indicators.

Keywords: Banking System, Financial Stability, International Institutions and Polices, Central Asia

1. Introduction

1.1. Background of the Study

After 2008 Global Financial Crisis, many economists focus and interests were aimed at how to obtain financial stability and how to balance it. In fact, the default occurred by the cause of vulnerabilities in financial stability of US banking system and made the entire world set reasonable financial requirement for their banking policies. Clark E. stated this crisis proved that there is more need for obtaining financial stability in banking system and must create the best policies and alternatives in order to make financial stability more robust and stable [9]. Recent papers on financial stability of banking system are very diverse, many articles were about the interactions of financial stability with banking competition, bank regulation and supervision, bank profitability, prevention from banking crises, financial stability indicators and others. Gibson H. stressed on systematic risk vulnerabilities' effect on financial stability, investigated on influence of bank competition on financial stability in CIS countries, the paper concluded that competition does really contribute to stability [11]. Therefore, Marques B., et al., was introduced government support and regulation in providing bank stability through the provision of guarantees [20]. Bouzgarrou H., made revolutionary investigations on the profitability of domestic and foreign banks before, in 2008, financial crises period, and research paper conducted in France, covering more than 100 commercial banks [7]. The famous Russian scientist Lavrushin O. also analyzed factors that are placed according to their level of negative power, result showed the factors influence to banking crises [18]. Papers showed that the biggest factor for financial crisis which makes around 90% of all the disasters is strongly coordinated with the defects in banking regulation and control. Additionally, the topics of bank risks, stress tests have been in great demand. Our motivations for this research paper is mainly arisen because of financial instability in banking sectors being the major cause for world crisis and these motivations are directed to find how to obtain financial stability in banks and what are the measures of it. The research tries to analyze the area of financial stability measurement and its policies which would be valuable data, identifies financial stability in Central Asia (CA) banking system, we assume that this region has not been well analyzed and compared with advanced economies in terms of measurement indicators.

According to Dabrowski M., CA makes an interesting research study because of its landlocked location and its historic legacy, including seven decades of communist rule and central planning [24]. Indeed, the countries of CA are landlocked; mainly Uzbekistan is doubling landlocked which borders only landlocked countries. Although, Kazakhstan and Turkmenistan are border the Caspian Sea, but is not an open sea. CA countries are doing poorly in the areas of governance and enterprise restructuring and competition policy, pointing to their limited progress in more complex institutional and legal reforms. According to Heritage Foundation (HF) Index of Economic Freedom, only Kazakhstan and Kyrgyzstan have managed to achieve partial economic freedom (category of “moderately free”). Tajikistan is rated as “mostly “unfree” and the two other countries are considered “repressed”. Corruption remains a major problem in the region, particularly in Turkmenistan; it is an additional burden, especially on the poor, in terms of their access to public and private services. Kazakhstan and Kyrgyzstan have achieved some progress in building market oriented financial sectors. Therefore, the two big powers directly bordering CA region China and Russia, provide financial and development aid it largely serves their national and geopolitical interests. Kazakhstan and Turkmenistan have managed to grow rapidly. Both countries continue to have higher GDP per capita in PPP terms than faster growing China. Kazakhstan overtook Turkey and caught up with Russia in 2015. Uzbekistan, Kyrgyzstan and Tajikistan grew at a slower pace. As a result, the income per capita differences between those two subgroups of CA countries have increased in the past decade.

In this research paper, we compare Financial Stability Indicators (FSIs) between Central Asia and some advanced economies countries. Indeed, the state of financial stability between CA and developed countries has some similar and different aspects. In this analysis, we focus on the stability indicators, such as capital adequacy, liquidity, profitability, other additional indicators. The papers analyzed regulatory capital ratio in banks to risk weighted in these countries during 2005-2015, paper found out that the ratio better increased in advanced countries than CA countries. In terms of CA banking system, although the effect of financial crisis was not so huge, there are some detrimental elements of instability or poor banking elements. Another regarding problem is what despite the high rate of growth of financial stability indicators, their ratio to GDP remains inadequate. Also, data indicated in all banking area the ratio of bank assets to GDP is too low. In modern economies, this indicator stays usually more than 100% indicating that banks assets should be higher than gross domestic product in scale. More interestingly, bank assets in percentage of GDP are extremely huge in advanced economies (see figure 1). Banks in CA has higher interest spread rate than developed countries, which was 3 times bigger in 2015 statistics.

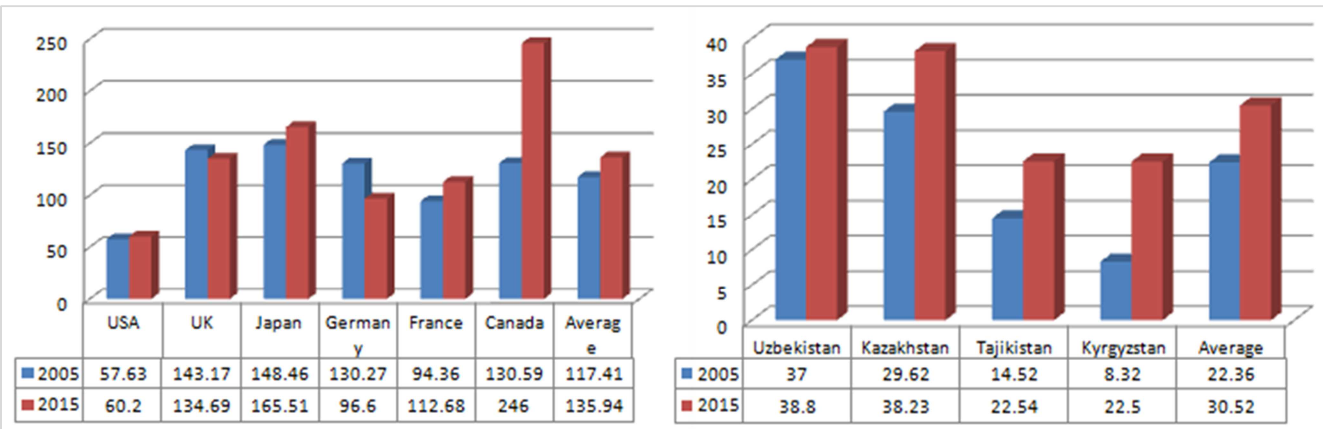

Figure 1. *Comparison of Total Bank Assets in Developed and Central Asian Countries, (% of GDP).*

However, define the similarities which the ratio of bank assets over GDP fairly increased in both areas during this period, financial stability in banking system has been a great issue and stability has not a concrete measurement system that exactly tells us what will happen in the near future. According to findings we can illustrate that the indicator has positive growth overall. In Central Asia, Uzbekistan and Kazakhstan has the highest indicator. Overall, bank assets in developed countries are more than their GDP generally, but in CA, although there is higher increase in growth, but still much few assets to their GDP level.

1.2. Rational for Research

Adam G. noted that financial stability does not have a proper definition, along with concrete indicator to measure it [1]. Findings showed that in England by Central Bank first time used the term “financial stability”, in 1994 according to William A., and Geoffrey W. [27]. Some researchers tend to think that the term is directly connected with systematic risks in financial sector (De Bandt and Hartmann, Hoelsher and Quintyn Summer. According to Kreynina M., is what “financial stability is the stability of the financial activity of an organization of which sufficient debts of the private capital are provided through the basis structure of financing” [15]. This paper investigated to describe the bank-financial system and analyze FSIs in two different areas, based on the objectives. During conducted research paper, following objectives would be achieved: 1) to investigate on financial soundness indicators in developed countries and in Central Asia, 2) to explore and suggest best policies and alternatives for financial stability in banking sectors. So, first of all, we compare the financial soundness indicators between Central Asia and developed countries. And, we investigate on the similarities and differences in two different areas; finally, we search various alternatives and policies for financial stability. The research paper try to find out the following questions how the financial stability indicators differ between CA and developed countries and what are the key elements of the banking system? What kind of alternatives and policies exist for boosting financial stability?

Mainly, paper focused on CA banking system and examines some problems in this area. We found that CA’s remote geographic location, far from major centers of world business activity, landlocked situation and underdeveloped transportation infrastructure do not help the region’s integration into the world economy and their economic development, therefore to financial stability even if a given country or region is well-endowed with natural resources and educated labor force. Data showed the presence of mineral resources, especially hydrocarbons, help Central Asian countries to growing and developing, eradicate poverty and start large infrastructure projects, despite their geographic, geopolitical and institutional disadvantages. But, banking system is still not developed and facing problems. It means that CA need deeply investigate to development of financial sectors and financial stability; it has significant relationship with economic growth as well.

1.3. Scopes of the Paper

The research paper is consisted of 6 main chapters, including Conclusion and Recommendation. First chapter introduction, second chapters are dedicated to literature review for financial stability of banking sectors, also specific institutions and policies for financial stability. Section 3 well presents Central Asian banking system: current situation and main problems. The 4 section is about institutions and policies for financial stability. Chapter 5 discuss financial stability measurement and numerous financial indicators, some developed countries and Central Asia banking indicators are assessed and results are presented. Eventually, in the last chapter 6, the research paper will give overall conclusion to this research study and recommendations for future implementation.

2. Theoretical Background

2.1. Literature on Factors Influencing to Financial Stability in Banking System

There are a lot of publications and reports devoted to financial stability of banks. Especially, it is important to mention that during and after 2008, named Global financial Crisis, obtaining financial stability has been the main topic for researches and academic journals. Although, financial stability itself has been studied and investigated for a long time, the nexus of bank regulation and financial stability has a close history. It has been first studied about deregulation in the US market by who researcher Keeley. Also, many papers focused on the problem of financial stress prediction. Misina M., and Tkacz G. summarized in their research papers that growth in business credit and real estate prices could be leading indicators for financial stress [22]. Slingenberg J., and Haan J. use a financial stress index (the index covers the entire financial system, indicators used are available at a high frequency for many countries for a long period) for 13 OECD countries, but concluded that it is really hard to predict financial stress [25]. Only credit growth has some predictive power. Moreover, Borek V., and Diana Z., also examined which variables have predictive power for financial stress in a sample of 25 OECD countries with financial stress index (FSI) and in the conclusion, also stated that it is hard to predict it [5]. Also, the political environment in the country does also contribute significantly to financial stability of banking. For example, Turkey faced two economic crises episodes, firstly 1991, on October during election, second time happened 2002, on October during general election [5].

According to Bisias, the systematic risk is thought of as a set of circumstances that leads to the failure of a significant part of the financial sector, resulting in a reduction of credit availability that has the potential to adversely affect the real economy. Bartholomew and Whalen stated that to mitigate this systematic risk, it is advisable to use macro prudential policies. The study of systematic vulnerabilities has been well investigated by the researcher, Gibson H., where they used the model based on market value of banks in identifying these vulnerabilities [11]. Moreover, Martinez J. focused on significant correlation between financial stability and bank competition and concluded that it should be non-linear [21]. Franco F. assessed the dynamic relationship between competition and bank soundness among European cooperative banks between 1998 and 2009 and found 3 main results [10]. First, provide evidence in line with the competition-stability view proposed by Boyd and De Nicolo. Second, this fundamental relationship does not change during the 2007-2009 financial crises. Third, they showed that increased homogeneity in the cooperative banking sector positively affects bank soundness. Moreover, Clark E. investigated the impact of bank competition on financial stability in the transition markets of the Commonwealth of Independent States (CIS) [9]. The results verify the competition-stability hypothesis and show that competition contributes to financial stability in these countries. Adrian T. and Shin S said that financial stability has the role of monetary policy [2]. Moreover, to clarify the clear connections of financial instability and economic growth, one should make some observations in the period of a huge financial crisis or after it has finished which still consequences become available. Vasko D. developed a comprehensive index of the transparency of central banks regarding their policy framework to safeguard financial stability for 110 countries from 2000 to 2011 and examined the determinants and effects of this transparency [28]. They find that the degree of transparency increased in the 2000s, though it still varied greatly across the countries.

Lavrushin O. organized the table of such factors that they are placed according to their level of negative power. The table shows influence the factors to banking crises [18]. As mentioned above that the biggest factor for financial crisis which makes around 90% of all the disasters is strongly coordinated with the defects in banking regulation and control.

Table 1. *Factors of Banking Crises.*

The factor of banking crises	The percentage, (%)
The defects in regulation and control	90
The defects in bank management	69
Hardship in trade business	69
The economic repression	55
The politic intervention	40
The credit affiliation subjects	31
The speculativ bubble	24
The cheatness	21
The loans to state enterprises	21
The avoidment of capital	7
The defects in court system	7
The active exclusion of depositors from banks	7

Barth G. used their database on bank regulation and supervision in 107 countries to assess the relationship between specific regulatory and supervisory are practices and banking-sector development [6]. They show that there is higher possibility for crisis when countries: 1) restrict bank activities (or prevent or discourage diversification of income through non-traditional activities), 2) put limits on foreign bank entry-ownership, 3) exacerbate moral hazard via a more generous deposit insurance scheme. Using bank-level data, Beltratti A., and Stulz R. analyzed 98 large banks from 20 countries and investigated whether bank performance was related to bank-level governance, country-level governance, bank balance sheet and profitability characteristics before the crisis, and country-level regulation, one of the key results that banks in countries with stricter capital requirement regulations performed better [4]. For banking system regulation, Heffernan Sh. introduced main international organization of which main functions are directly coordinated with the achievement of financial stability in banking system [12]. Marques B. introduced government support and regulation in providing bank transparency. He suggested that through the provision of explicit or implicit guarantees, banks will likely take on risks by reducing market discipline or by increasing charter value [20]. Uzbek researcher and banker who Sattorov O. tried to analyze the necessity of Basel III requirements in providing financial stability and he emphasized its importance in current banking systems [17]. Bouzgarrou H. made investigations on the profitability of domestic and foreign banks before and during the recent financial crisis [7]. Their sample covered 170 commercial banks in France during 2000-2012 and found out that foreign banks are more profitable than domestic banks especially during the financial crisis.

2.2. The Significance Influence of Specific Institutions and Policies for Financial Stability

Data indicated that there are the main institutions whose activities are directly linked with financial stability and address the existent risks for financial stability, and also state the best alternatives and policies for it. Nowadays, there are several international and regional organizations, paper investigate only some main important institutions that have significant role in providing financial stability in banking. According to Kerwer D., the purpose of BCBS is to encourage convergence toward common approaches and standards [13]. In 1988, BCBS published a set of minimum capital requirements for banks, Basel I, focused on credit risk and appropriate risk-weighting of assets. Basel II is the second of the Basel Accords, which was published initially in June 2004, mainly based on adequate capital and was implemented prior to 2008 in most major economies. Because of the two Accords were more conservative-based, Basel III was agreed upon by the members of BCBS in 2010-2011. Its implementation was lastly extended until 31 March, 2019. Heffernan S. noted that as Basel III was offered after the Financial Crisis, it primarily concentrates on capital adequacy, stress testing and market liquidity risk. Below we go to the specific organizations which the whole functions are directed to obtaining financial stability in banking [12].

Table 2. *International Organizations Concerned with Financial Stability.*

Name	Date established	Objective	Who meets
Basel Committee on Banking Supervision	1974	Supervision of international banks but many countries (EU states) apply standards to all banks;	Supervisors + central bankers from G-10
International Accounting Standards Committee (IASC)	1973	To harmonize accounting rules world-wide. Set up the IASB to implement agreed global accounting standards;	3 or 4 day meetings per annum
International Accounting Standards Board (IASB)	2001	To implement a set of global accounting standards. Advised by a 49 member Standards Advisory Council;	Monthly meetings
Financial Stability Forum (FSF)	1999	To advocate stronger development and implementation of international standards; to access, identify and take joint action on vulnerable points that could undermine the stability of the international financial system; to improve information flows, coordination and cooperation.	Supervisors + International supervision bodies, central banks (+ECB), finance ministries, IMF, World Bank,

They regulates capital adequacy and focuses on reserve transparency with the help of Basel Standards, monitors and make recommendations about the global financial system, improve the coordination between national bank regulators through holding seminars and acting, serve central banks in their pursuit of monetary and financial stability to boost international cooperation, contributes to the development and growth of the economy by preserving financial market stability. When discussing the policies, along with Basel III requirements, foreign equity attraction, 100% reserve banking system, stress-testing method, network linkage and other polices play a crucial and significant role mostly in advanced economies. According to Adrian T. “The Basel III incorporates a countercyclical capital buffer, which can be built up in crisis times when the cost of equity is cheap. In principle, the release of this buffer would help to price the risk and capital required for micro prudential objectives would be a function of physical default risks”. 100% reserve banking system is considered a new phenomenon. Another policy for obtaining financial stability in banking system has been established by Krainer with the goal of 100% reserve banking system (“Chicago Plan”), namely to safeguard deposit money at a relatively lower cost than current regulation [13].

According to Marques B., government support in obtaining stability is also considered as one alternative. Government support to banks through the provision of explicit or implicit guarantees affects the willingness of banks to take on risk by reducing market discipline or by increasing charter value [20]. Therefore, according to the market discipline hypothesis, government support to banks decreases the incentive of outside investors (e.g., depositors, creditors, and shareholders) to monitor or influence bank risk taking. Moreover, decreases in business restrictions and technological innovations have led to an increase in competition for banks. So, our suggestion is governments try to reduce their restrictions and create opportunities to establish innovations in the aim of financial stability for banking system. Stress testing methods are also very necessary. In the United States, the first formal bank supervisory stress tests, SCAP, were performed during 2009, and since they have been made regularly by Kovner A. [14]. In Europe, the 2011 stress test also served as a crisis management tool during the European sovereign debt crisis. Shehzad C. analyzed the impact of financial reform on systemic and non-systemic banking crises in 85 countries, from 1973 to 2002, finding that certain types of financial reform reduce the likelihood of banking crisis [16].

2.3. Literature on Measurements of Financial Stability

The measurements of Financial Stability is usually established by some international organizations for commercial banks and it is considered as an important tools to produce useful statistic information about banks for real investors. Main one of these organizations is Basel Committee on Banking Supervision. BCBS has established international regulatory framework to measure financial stability. Main financial soundness indicators in Basel Standards are as follows: 1) the indicators of capital adequacy; 2) the indicators of liquidity; 3) the indicators of profitability; 4) additional financial indicators (NSFR, Z-Score, Stress tests, CAMELS). The Capital adequacy indicators are also significantly important indicators according to the Basel Reports. Another measure of bank instability which is extensively used in the literature is the Z-score (Boyd and Runkle, Lepetit et al., Laeven and Levine, Cihak). Liquidity indicators are also considered as main financial soundness indicators. Another liquidity measurement tool is liquidity coverage ratio. The Liquidity Coverage Ratios (LCR) is an important part of the Basel Accords. Minimum LCR becomes 60% from 2015 and increasing steadily 10% annually, it should be 100% in January 1, 2019 based on Basel III.

The stress-testing is an essential instrument and measurement of analysing the stability and reliability of a separate bank or the whole banking system in the implementation of deep reforms. According to Cihak, stress testing is only one of a number of tools used to assess and monitor strengths and vulnerabilities of banking or financial systems. In fact, there are a number of differences between FSIs and stress testing. Stress tests portray more accurately the potential cost of shocks. Stress tests are widely used in the US and other developed countries, the CLASS model is the most simple, based on publicly available regulatory data rather than the others. And another advantage of this approach is that the model projections can be generated quickly explained by Kovner A. [14]. CAMELS are another method of measuring bank risks. Its evaluation criteria are capital adequacy, assets quality, management, earnings, liquidity, and market risk sensitivity (sensitivity to market risks, especially interest risks). The ratings of CAMELS are given from 1 (best) to 5 (worst). Rating 1 indicates strong performance and risk management practices that consistently provide for safe and sound operations. Rating 5 considered unsatisfactory performance that is critically deficient and in need of immediate remedial attention.

3. Central Asian Banking System: Situation and Facing Problems

Countries in Central Asia are somewhat different from advanced countries. First of all, it is obvious that since the countries in this area are developing countries, their economies are considerable small in size. Secondly, the economies are primarily based in agriculture and light-heavy industry which is a common case for developing countries. We found, agriculture continues to contribute around a quarter of the value added in Tajikistan and Uzbekistan. All Central Asian countries recorded an expansion of mining and quarrying, especially Kazakhstan, Uzbekistan and Turkmenistan, attributable to the oil and natural gas industry. The main problems of the financial system in CA countries are the majority of commercial bank loans are long-term (above 70%), their capacity to finance the real economy is not sufficient, the share of bank loans and other borrowings in the structure of fixed asset investment was 11.4% in Uzbekistan. According to Uuriintuya B., the value of this indicator is for example 27.2% in Belarus, 12.1% in Kazakhstan, 13.3% in Russia and 16.1% in Ukraine [26]. According to Aliqoriyev O., this indicates a lack of involvement of the banking sector in reproductive processes [3]. In fact, CA countries were the least affected during financial crisis due to their weak European trade connections and low level of access to international markets. But, some political crises, such as the political shock in Kyrgyzstan brought significant economic disruption. So, among financial stability policies for CA, political risk prevention remains one of the most important policies. In CA, the state role in economy increased, partly as a result of government responses to the crisis. In Uzbekistan, for instance, the state has a significant role in the allocation of resources yet. Further structural reforms are needed in those countries to have a financial sector able to proactively support economic growth.

Papers found that the state share in the banking system should be also reduced to make banking stability more transparent. Central Bank of Uzbekistan is fully owned by the government of Uzbekistan. However, it somewhat lacks independence in practice. The another biggest issue is that according to the official figures, the Capital Adequacy Ratio (CAR) ratio in Uzbekistan is currently 24.8% which is significantly above regional averages and the Bank's requirement of 10%, so this level may be overstated. Because some analytics have questioned whether the loans of National Bank of Uzbekistan (NBU), the largest bank in the country with around 30% market share in banking are assigned to an adequate risk level. Most of these loans are guaranteed by the state and therefore they might be no risk weighting. Actually, if these loans were considered as fully commercial credits, the total amount of risky assets would increase and the ratio would be considerably lower.

In Uzbekistan, main policy priorities for financial stability should include eliminating de-facto government controls, undertaking measures to further deepen financial sector intermediation; introducing an appropriate degree of risk perspective in the regulatory and supervisory frameworks to promote risk management in banks. Also, need to improve the quality of credit portfolios of commercial banks by moving away from directed lending. Reducing concentration of credit portfolios and volumes of related party lending, main policy that must be taken in control. To support the banking system stability, first of all, the government should increase the efficiency of banking supervision through using international practice. Also, the refinement of creditworthiness of clients and usage of new evaluating methods can be very helpful. Most developed countries try to strengthen the financial stability through marketing and management services which is also advisable for Central Asian countries.

In terms of Kazakhstan banking system, statistics show that there is need for faster fixing and more long-term liquidity. Liquidity, though still at comfortable levels, has become scarcer while capital seems not to be the critical issue under Basel. First, measures are needed to speed the cleaning up of the banking system as well as measure to make funding more long-term. To avoid serious maturity mismatches, there has to be a stable long-term funding base. One possibility for banks to make the funding base more long-term is to issue more bonds. Secondly, higher foreign funding has a positive impact, especially for foreign funding. Bringing down the high share of non-performing assets and solving the unsolved issues would be useful for revival of foreign funding. Due to the global economic crisis and political events in Kyrgyzstan, the economy of the country suffered a substantial downturn during 2009-2010. After this severe upheaval, Kyrgyzstan remained vulnerable in terms of trade shocks, need enhancing the supervision, particularly in systematically important banks. According to findings, note that banking system of this country has improved after some reforms in the country. Still, for robust financial stability there is need for government support and also, in order to prevent systematic risks, loan loss provisioning policy would be very important.

Tajikistan has emerged from the global downturn, but banking sector remains weak. The Republic's regulatory capital to risk weighted assets is one of the lowest in Central Asia in 2015, however in 2006, it was the highest there. So shortage of regulatory capital should be solved in near years and capital adequacy needs to be reviewed seriously in order to fulfill the Basel requirements in the country. Moreover, bank asset increase is also another key issue here. Banks should attract more deposits and provide loans to increase their profitability and it is recommendable to look for foreign loans from international financial organizations. Also, there is a problem associated with liquidity. The ratio of bank liquid assets to deposits is the smallest in the region and requires applying strict liquidity framework for the banking system.

Findings showed that the Turkmen economy experienced significant growth, from 2005-2015, during the past decade. During the crisis, the country was mostly affected through the drop in global demand for gas. Most banks in the country are state-owned and it is advisable to reduce the state's role in banking. Banking activity in the real economy has been limited by banks' capital base which is not big. Another policy to be presented is correlated with limited access to financial services for the majority of the population. Data showed, around 1% of the population had a formal bank account during 2011-2012 which is too low. In key policy priorities, enabling environment would be a key-precondition for private sector development. Also, it is important to continue to introduce internationally accepted standards in the banking system.

4. Analyzing Banking Stability of Central Asia and Data Results

4.1. Analyzing Capital Adequacy

According to analysis of this study, the following results were obtained according to main variables of banking stability which capital adequacy, liquidity and profitability indicators. Data showed that the growth of the regulatory capital to risk weighted assets indicator is still slow in CA. Especially, there are decreases in this indicator in Tajikistan and Kyrgyzstan in 2006-2015. Meanwhile, the indicator is growing steadily in developed countries every year. On average, this ratio was 16.5% in advanced countries in 2015, and 19.2% in Central Asia. On the whole, we can see that regulatory capital to risk weighted assets is higher in percentage in Central Asia than it is in advanced countries. It is evidence that the Basel CAR requirement has been fulfilled among these countries. Results indicated that banks in CA have higher interest rates. For example, in 2015, interest spread was 9.67% for CA and it was 3% for developed countries. That does really affect the quality of loans and can cause instability in credit market. This ratio is average 8.8% in CA and 3.8% in developed economies.

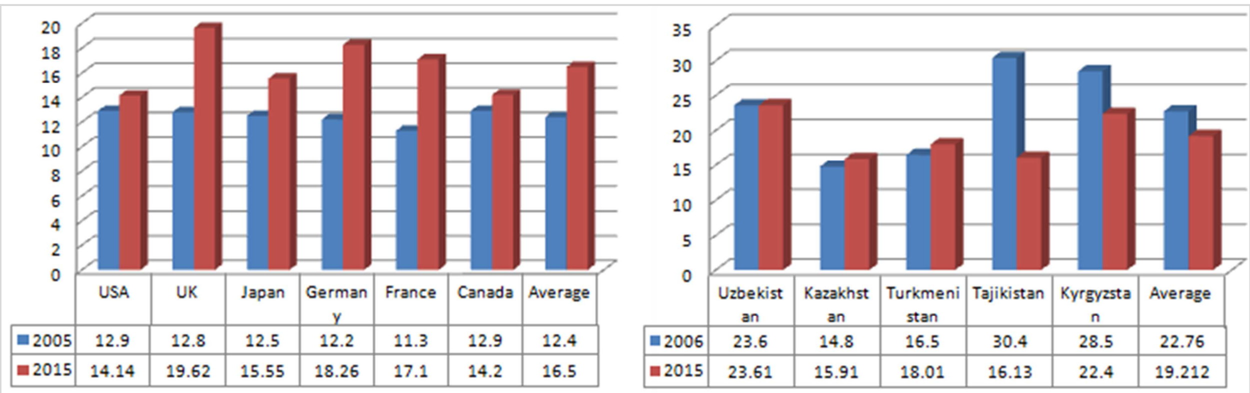

Figure 2. *Regulatory capital to risk weighted assets, (%).*

Table 3. *Basel III Liquidity Coverage Ratios (%)*

Measurement	1 January 2015	1 January 2016	1 January 2017	1 January 2018	1 January 2019
Minimum LCR	60	70	80	90	100

Table 4. *Interest spread and z-score indices in developed countries and CA.*

Developed Countries	Bank lending-deposit spread (%)	Bank z-score	Central Asia countries	Bank lending-deposit spread (%)	Bank z-score
USA	2.9*	27.9	Uzbekistan	4.28	6.7
UK	2.7	13.6	Kazakhstan	3.32	2.1
Japan	0.8	14.0	Turkmenistan	1.07	2.6
Germany	7.0	22.6	Tajikistan	19.5	12.0
France	4.4	19.7	Kyrgyzstan	20.2	18.6
Canada	2.5	14.0	*Average*	*9.67*	*8.4*
Average	*3.4*	*18.6*			

Above table 3 showed what the net interest spread and z-score indicator between CA and advanced economies, in 2015. Data indicated the interest spread was the highest in Germany (7%) and the lowest in Japan (0.8%) among advanced countries. On the other hand, z-score was the highest in the USA (27.9) and the lowest in UK (13.6). The arithmetic mean was 3.4% for spread and 18.6 for z-score. In CA countries, interest spread is the highest in Kyrgyzstan (20.2%) and the lowest in Turkmenistan (1.07%). The average is 9.67% and it is almost three times bigger than it is in advanced countries. Data showed that banks in CA rely mostly on interest gains, also bank mean z-score is 8.4 and it is twice less than in advanced countries.

4.2. Analyzing Profitability Indicators

According to findings, there are positive changes in ROA in Central Asian and developed countries. The average ratio for advanced countries is 0.74%, while it is -4% in Central Asia, because of Tajikistan. However, it is necessary to note that except Tajikistan, all other Asian countries have better ratios than developed countries, but nevertheless, they don't satisfy the Basel requirements. For example, ROA is 1.6% in Uzbekistan and Basel requires it to be at least 5%. Uzbekistan and Kyrgyzstan has the highest in CA, 1.86% and 1.91%. Interestingly, Tajikistan has the negative ratio in 2015. Among developed countries, the US and Canada has the highest ratio in the same period, 1.52% and 0.92% respectively.

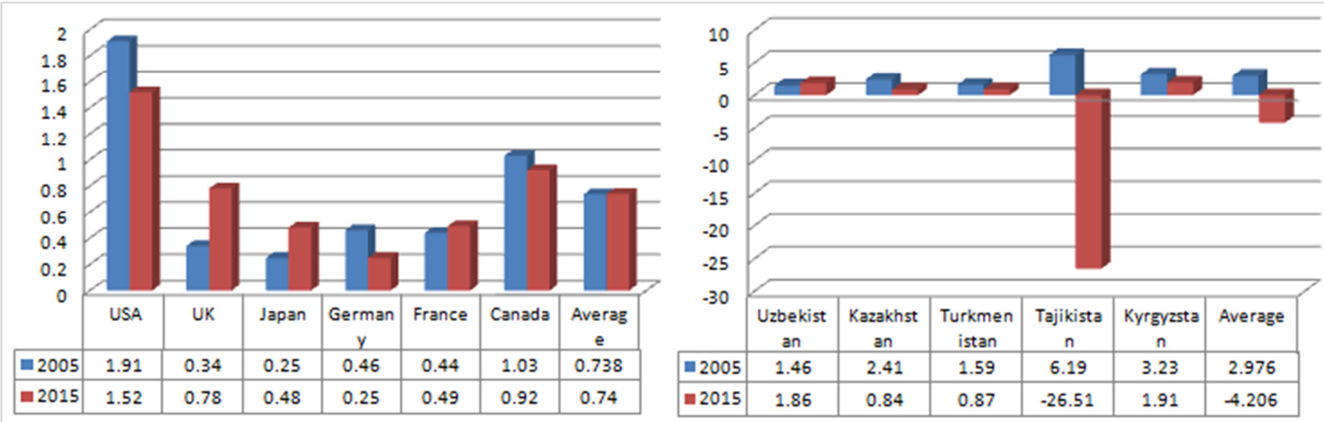

Figure 3. *Return on Assets (ROA ratio, %).*

The ROE coefficient's optimal level should be 0.1%. This indicator means the sum of profit to 1 cent of bank capital and especially it gives broad information that how stockholders are efficiently using their money in banks. During 2005-2015, Return on equity is far better CA, Turkmenistan and Kyrgyzstan has highest ROE, 30.58% and 18.86% respectively. The average ROE twice decreased in advanced economies from 15% to 7.8%. Whereas, the average ratio is peaked at 16% from 14% in Central Asian banks which was more than twice higher than developed countries in 2015. Results data showed that almost every economy in CA has ROE higher than 10%, means the banks could make higher earnings for 1 cent of equity.

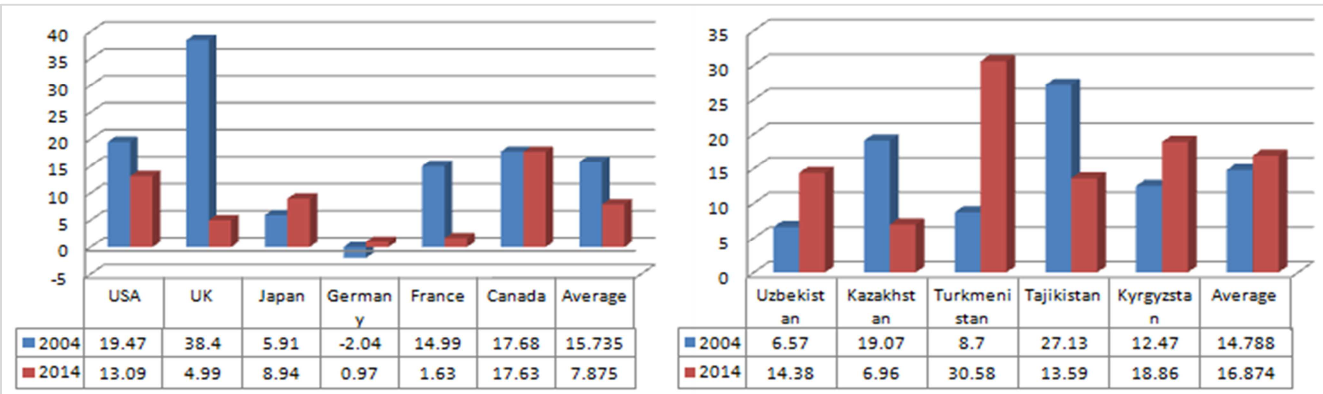

Figure 4. *Return on Equity (ROE ratio, %).*

4.3. Liquidity Ratio in Banking System

Also, according to bank credits/deposits ratio, CA is leading in the increase of the ratio. During 2010-2015, this ratio increased from 112% to 132% and it signifies that Central Asian banks were more active in allocating loans than advanced countries. In terms of bank liquid assets/deposits, Central Asian countries showed more attractive results. This indicator is 43%, whereas it is 38% in developed countries, although being more close to each other. In fact, the state-banks role in Central Asia is too high. For example, in 2018, only 11% of total loans were given by private banks in Uzbekistan. The government should consider these aspects in order to accomplish international standards. Overall, the state of capital adequacy is better especially in developed countries in terms of CAR. Both countries have advantages and disadvantages in terms of liquidity. Data showed bank assets are very huge in developed countries, but banks in CA have more liquid assets. Lastly, according to profitability indicators, ROA was almost similar and ROE indicator was much better in CA.

5. Conclusion

The research paper stressed on the financial stability indicators, measurement system of financial stability in banking, bank profitability, bank risks, stress tests and Basel requirements which are considered very important. Through the analysis part, the financial stability indicators between CA and developed countries were compared. The key components of these measures are divided into 4, such as capital adequacy indicators, liquidity, profitability indicators and other additional ones. It is evidence that there are similarities and differences in banking systems of CA and advanced countries. Paper found that advanced countries have higher capital and better ratios in case of most indicators. Also, Central Asian countries have also advantageous sides, such as satisfying Basel III capital and liquidity requirements. But, CA still has higher interest rates for loans, a bit closed banking system which government's role in economy still remains significant. Moreover, when focused on the objectives in financial stability indicators between Central Asia and developed countries, we found that capital adequacy, liquidity and profitability indicators have been clearly interlinked with each region and strongly influenced by each country's economic environment.

In terms of capital adequacy indicators, such as regulatory capital is to risk weighted assets, the rate related was higher in Central Asia than advanced countries. And, according to liquidity indicators, bank assets in the share of GDP are more than 100% on average in developed countries. However, the ratio is currently very low in CA, so there is need for an increase in bank assets. Mainly, the interest spread rate remains very high in these countries, accounting for around 10% on average, more than 3 times higher than advanced countries. Although, the profitability indicators are positive among these countries, it is necessary to reduce the NPL indicators which non-performing loans in total loans in CA. Research found that in Uzbekistan, one of the issues is related to the low level of ROA.

6. Recommendations

All five countries government should encourage opening private banks and boosting private bank services. Accordingly, the interest spread rate remains very high, accounting for around 16% on average, more than 3 times higher than advanced countries. Data showed that bank assets are increasing rapidly, however bank earnings should also increase in the same velocity. Another issue in CA is state-partnership banks' role in banking system. Results indicated that they account more than 80% of all the assets, loans and capital. It is recommended that related organizations and central banks should establish best alternatives and polices in order to boost banking transparency in this region and bank regulation along with supervision should also be taken into consideration for smooth running.

Acknowledgements

I would like to thank my supervisor Prof. Zhou Qingjie for supporting me and with thoughtful suggestions, helped all time through writing papers. We write to extend our warmest gratitude to Beijing Technology and Business University and Yoeju technical institute in Tashkent.

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