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**Analysis of Banking Sector
of Kazakhstan in terms of
profitability: Islamic versus
Traditional Banking**

The paper contribute to the research regarding the effectiveness of Islamic banking in Kazakhstan. The comparative analysis of Islamic Banking and Conventional Banking firms is made. Moreover, it touch the differences of the Islamic Banks and Conventional Banks in terms of historical origin, mobilizing of financial resources, and ways of generating profit, operating principles, and equity structure. Methodological base of research in given clause was made with modern concepts Islamic banking and Islamic model of financing adequacy, asset quality, management, earnings and liquidity as a whole. Findings of the results indicate the mathematical model consists of a probability space, a Brownian motion and a Poisson process. The jumps are independent and identically distributed. The approach consists of defining a notion of risk and production instrument asset quality in order to minimize the risk. To empirically evaluate performance of the banks, different financial ratios are employed which are based on CAMEL framework during the period 2011-2015. We measure performance in terms of capital adequacy, asset quality, management, earnings and liquidity. In this work, descriptive statistics, one-way Anova and regression analysis are used to make hypothesis test and determine the ratio significance. Consequently, results from empirical analysis indicate that there is difference in profitability determinants.

Key words: Islamic banks, Conventional banks, CAMEL framework, Profitability, Regression analysis.

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**Қазақстандағы банк секторын
тиімділік тұрғысынан талдау:
Ислам және дәстүрлі банктер**

Бұл жұмыстың негізгі мақсаты – Қазақстандағы Ислам банкин­гінің тиімділігіне қатысты зерттеу саласына үлес қосу. Осы зерт­теуге Ислам және Дәстүрлі банктердің салыстырмалы талдауы кі­реді. Бұдан өзге, зерттеу екі банк үлгілерінің тарихи пайда болуын, қағидаларын, капитал құрылымын, сонымен қатар қаржы көрсет­кіштерінің арасындағы айырмашылықтарды да қамтиды. Мақаланың методологиялық негізі ретінде қазіргі заманғы ислам банк концеп­циясының негізі болып табылатын активтердің сапасы, басқару, табыс және қаржыландырудың исламдық моделі алынды. Нәтижелері: алынған ғылыми нәтижелер Пуассон процесі мен Броун қозғалы­сының шамаланған кеңістігінен тұратын математикалық моделді көрсетеді. Тұрақсыз тәуекелділік және ислам моделіндегі такафул (сақтандыру) бір жүйеде реттелген. Капиталдың жеткіліктілігі, актив­тердің сапасы, басқару, табыс және өтімділік тұрғысынан тиімділік­ті өлшеу жоспарланып отыр. Болжам құру және коэффициенттердің маңыздылығын анықтау мақсатында келесілер қолданылады: салыс­тырмалы статистика, Анно­ва – талдау және кемімелі талдау. Эмпи­рикалық талдау нәтижесінде табыстылық көрсеткіштері арасында елеулі айырмашылықтар анықталды.

Түйін сөздер: Ислам банкингі, дәстүрлі банкинг, табыстылық дә­режесі, CAMEL.

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**Анализ банковского сектора
Казахстана с точки зрения
рентабельности: Исламские и
Традиционные банки**

Основная цель данной работы – внести вклад в область исследова­ния относительно эффективности Исламского банкинга в Казахстане. Данное исследование включает в себя сравнительный анализ Исламских и Традиционных банков. Более того, исследование охватывает разли­чия между историческим возникновением, принципами, структурой капитала, а также финансовыми показателями двух типов банков. Авторы рассматривают исламскую финансовую систему как очень гибкую, нес­мотря на ее видимые ограничения. Для выявления существенных разли­чий применяются различные финансовые коэффициенты, основанные на рамках CAMEL за период 2011-2015. Эффективность измеряется с точ­ки зрения достаточности капитала, качества активов, управления, дохо­дов и ликвидности. С целью построения гипотезы и определения значи­тельности коэффициентов, в исследовании применяются: описательная статистика, анализ-Анна­ва и регрессионный анализ. В результате эмпи­рического анализа выявлена существенная разница в детерминантах до­ходности.

Ключевые слова: Исламский банкинг, Традиционный банкинг, доходность, анализ CAMEL, Регрессионная модель.

**ANALYSIS OF
BANKING SECTOR OF
KAZAKHSTAN IN TERMS
OF PROFITABILITY:
ISLAMIC VERSUS
TRADITIONAL BANKING****Introduction**

Nowadays, the significance of the banking sector in the stability and welfare of any economy is vital. Due to this fact, it is imperative to constantly monitor and evaluate its performance. In the recent decades, a new prototype of banking, Islamic Banking, was introduced and was capable of achieving widespread and accelerating growth of total assets and market share on a global basis, including non-Muslim countries [1]. On one hand, there is a big dispute has risen that Islamic Banking System is being an optimum alternative for Conventional Banking System. Therefore, the comparative analysis is crucial in understanding what factors account for the differences in financial performance of the two banking systems.

Experimental part

Numerous empirical studies endeavor to measure the financial performance of the dissimilar banks in an attempt to gain more insights into Islamic banking model and the chronic reason behind its rapid success. However, all related studies and researches are more focused in GCC countries. There are almost no studies, which are based on investigation of banking system of Kazakhstan.

Discussions

One of the most important issue is that nowadays people even do not understand what Islamic banking is. How does they operates? What are the differences between two different banking sectors? What are the products provided by them? Therefore, before to start analysis we decided to provide some theoretical background.

Islamic banking is a system of financial activities consistent with Sharia, based on Islamic principles which at the core refuses collecting interest, transactions involving uncertainty and speculation [2], which are the following [3]:

It works on Islamic set guidelines consisting of Risk Sharing, Individual Rights & Duties, Property Rights, and Transparencies& Fair Deals.

Any predetermined payment over & above the actual amount of principal is prohibited (interest).
 The Islamic financial system employs concept of participation, utilizing funds on a profit-and-loss-sharing basis.

Islamic Orders not to use Money as a commodity. (No time value of Money). By making a deep research and analyzing a lot of information consisting Islamic finance, we provide a table below, in which we emphasize main differences.

Table 1 – Differences between IB and CB

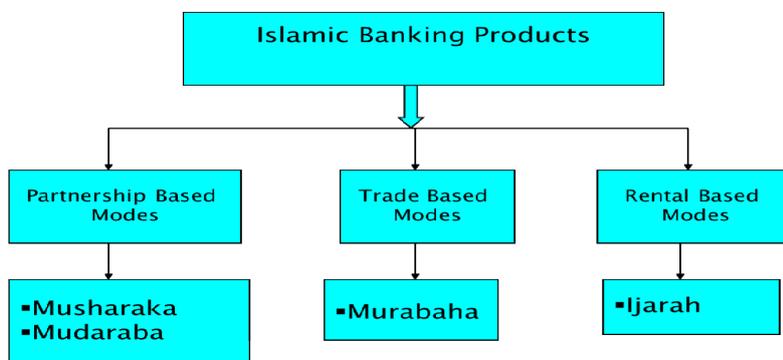
| Characteristics | Islamic Banking | Traditional Banking |
|----------------------|-----------------|---------------------|
| Percentage rate | No | Yes |
| Speculative behavior | No | Yes |
| Risk/Profit sharing | Yes | No |
| Real sector economy | High | Low |
| Social Basis | High | Low |

Note: Provided by author based on [3]

Islamic banks offer their clients a wide range of banking services just like conventional banks: deposit products, debit and credit cards, personal fi-

nance as well as business, trade and project finance. Insurance (Takaful), investments and asset management are also among Islamic finance products [4].

PRODUCT TREE



Picture 1 – product tree of Islamic Banking products
 Note: Provided by author based on [4]

To sum up, all of the above-mentioned transactions are free interest and non-speculative transactions. Furthermore, if default of the borrower is taking place due to serious problems that raised, even though the borrower put maximum efforts to realize his goal to make profit but because of some unexpected outcomes he defaults, for example those unexpected conditions are: war, big recession, military coup, and so on. In this case the borrower is not accountable for the loan, that is to say he is not obliged to repay the loan back.

Before starting comparative analysis between IB and CB, which is the main purpose of current research, let us first and foremost consider the main aspects of the overall performance of our country’s banking system in order to get the clear picture of its financial position.

According to Financial Supervision Agency of RK (FSA), there are 38-second level including 1 Islamic banks as of 1 January 2015, out of which 17 banks are with foreign participation and 1 bank with 100% government ownership-Central Bank [5]. The

National Bank was empowered to fulfill traditional central bank's functions including money issue, currency control, monetary policy and banking regulation and supervision.

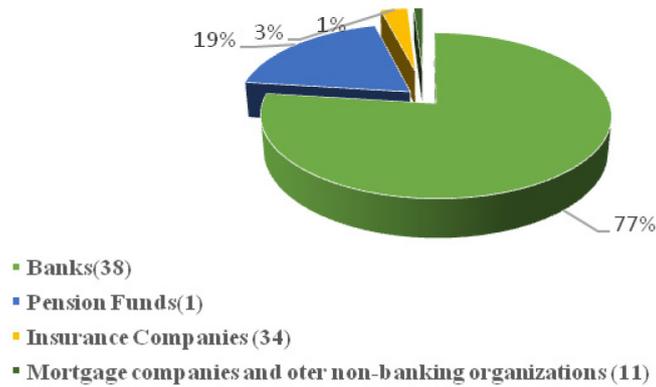
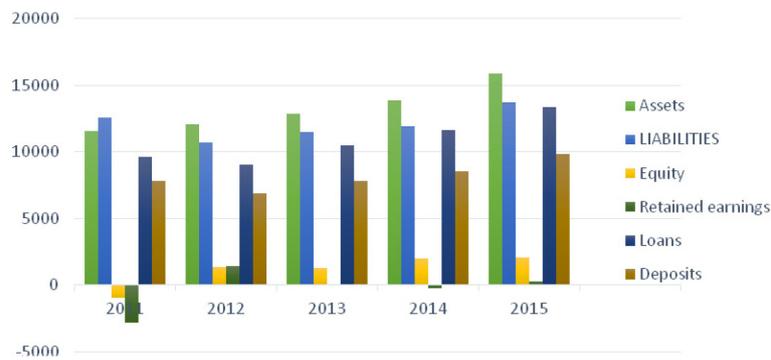
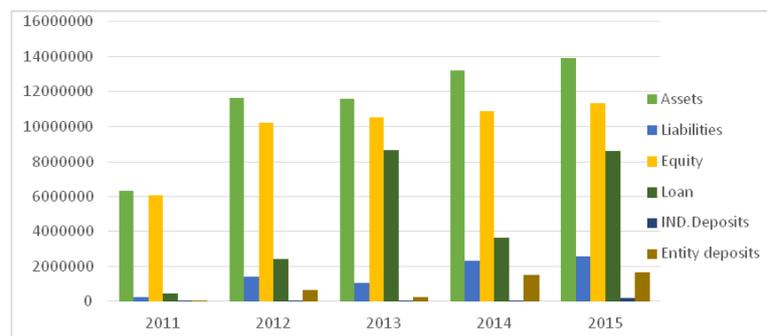


Figure 1 – Kazakhstan: Structure of the Financial System (Percent of Financial Assets)
 Note – Compiled by author based on [5]



Graph 1– Dynamics of banking sector main financial indicators (2011-2015) in billions KZT
 Note – Compiled by author in accordance with the data provided by [6]



Graph 2 – Dynamics of Al-Hilal Bank main financial indicators (2011-2015)
 Note– Compiled by author in accordance with the data provided by [6]

Now let's have a look at how two different bank types banks financial position through examining its main performance.

Therefore, by making comparison we draw following conclusion; the capital structures of both types' banks are different. Capital structure is way

that organization is financing its assets whether from liabilities or equity or both at the same time. In Islamic Banks, capital structure is based on equity, whereas in Conventional Banks is opposite, mostly debt financing and some equity. For instance, if the Conventional Banks issue the equity to raise the capital by \$10 billion and debt by \$90 billion that is said to be 10% equity financed and 90% debt financed. Furthermore, the ratio of total debt to equity financing is 90%, in this example the bank is leverage.

To sum up all of the above and basing on numerous studies, in order to provide more novel

information and empirical evidences about whether Islamic banks in Kazakhstan perform better than Conventional banks, second and main part of our analysis will be based on CAMEL framework. This investigation will allow us to identify advantages and shortcomings in terms of capital adequacy, asset quality, management quality, earnings quality and liquidity of two different banking systems in Kazakhstan. However, before, for more analysis that is detailed, we decided to provide SWOT analysis in all of information already stated in this paper in finding of others investigations.

Table 2 – SWOT-Analysis for Islamic Banking Industry in KZ

| Strengths | Weaknesses |
|--|---|
| <ul style="list-style-type: none"> – International recognition and opening doors even in countries with majority of Non-Muslim population. – High and continuous growth over the last 5 years: assets up 2.5 times in 2014 – Clean balance sheet, lack of problematic assets that have hugely affected large banks in the market – Clean balance sheet, lack of problematic assets that have hugely affected large banks in the market – a stabilizing effect in the banking sector – Strong demand for ribafree and ethical finance – Higher resilience to shocks and crisis – Ethical and moral values inevitably ingrained to Sharia principles will differentiate the bank from majority of the market players | <ul style="list-style-type: none"> – Human capital deficit – Sharia scholars deficit – Legislation adaptation needed: Tax issues (VAT for commodity Murabaha), Banking law definitions (Wakala, partnerships for retail etc.) – Focus more on debt-based products than equity-based instruments – Lack of branch network – Additional cost involved due to Sharia supervision – Misunderstanding Islamic finance principles by clients → wrong customer expectations – Risk-aversion of potential clients – Lack of Deposit Insurance system for Islamic banks → disadvantage to conventional competitors |
| Threats | Opportunities |
| <ul style="list-style-type: none"> – Reputation risk due to conventional products imitation – Path-dependency on conventional model – Cannibalism if authenticity lost – Regulatory risk if the Government plans (Road-Map) are not implement – Possible entry of big players would increase competition | <ul style="list-style-type: none"> – Exploit the potential of the banking sector and macroeconomic environment to grow in the long-run – Grow in momentum to capture a market share while only one Islamic bank is in the market and large conventional banks are in hangover from the crisis – Diversify in Islamic finance with Takaful and Investment bank subsidiaries forming an Islamic financial holding – Expand to neighbor countries (Russia, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan) – Meeting current demand and satisfying loyal customers, boost future demand and spread across the country and beyond Muslim audience – Financial inclusion strategies of the Government include Islamic finance alternative |

Note-Compiled by author basing on own notifications.

Results

The data for all banks in the sample was taken from NBK database, with a few individual banks' data compiled from the annual reports from their respective websites between the period 2011-2015. Secondary data derived from the bank's financial statements was transformed into percentages and

ratios so that comparison can be made between the different types of banks. The standard criteria used for sample selection of banks were: the bank is listed on the KASE, bank has a complete data set with annual financial statements from 2011-2015, Total asset of selected banks taking relatively high percentage of all bank's assets in Kazakhstan.

According to the above criteria, our sample process rendered 10 banks in total with nine conventional banks and one Islamic banks in Kazakhstan. Hence, the total number of observations in the study were 50 with 45 for CBs and 5 for IBs.

During the investigation for achieving each of stated objectives, the following Data Analysis Techniques are used:

Descriptive Statistics-used to compare and analyze the performance of two different banking systems.

One-way ANOVA -to test for significance degree of differences between the financial performance banks using the CAMEL model variables.

Multiple linear regression model – used to determine the significance of the each determinant (explanatory variables) in affecting the profitability of banks (dependent variable). The moderating effect of different banking systems was evaluated by using bank type as a dummy variable.

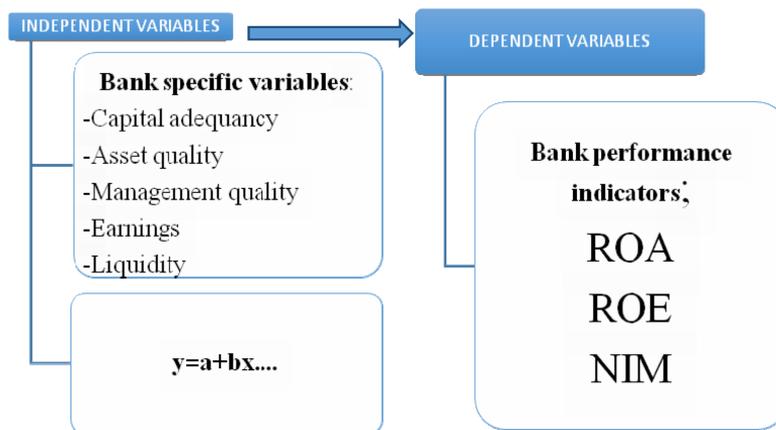


Figure 2 – Schematic Diagram showing the relationship between variables
Note– Provided by author

Hypothesis tested:

H1: Islamic banks have better **capital adequacy** measures than conventional banks.

H2: Islamic banks have better **asset quality** measures than conventional banks

H3: Islamic banks are better than conventional banks in **management quality**.

H4: Islamic banks have higher **earnings** than conventional banks.

H5: Islamic banks manage their **liquidity** more efficiently than conventional bank

The following regression models will be used to test for the determinants of profitability:

$$\begin{aligned} ROE &= \alpha_1 + \beta_1(CA) + \beta_2(AQ) + \beta_3(MQ) + \beta_4(ER) + \beta_5(LM) + \varepsilon \\ ROA &= \alpha_1 + \beta_1(CA) + \beta_2(AQ) + \beta_3(MQ) + \beta_4(ER) + \beta_5(LM) + \varepsilon \\ NIM &= \alpha_1 + \beta_1(CA) + \beta_2(AQ) + \beta_3(MQ) + \beta_4(ER) + \beta_5(LM) + \varepsilon \end{aligned}$$

Where;

1. α = Intercept
2. CA =Capital Adequacy of bank *i* at time *t*
3. AQ = Asset Quality of bank *i* at time *t*
4. MQ = Management Quality of Bank *i* at time *t*
5. ER= Earnings of Bank *i* at time *t*
6. LM =Liquidity Ratio of Bank *i* at time *t*
7. β_1 - β_5 = Coefficients parameters
8. ε = Error term where *i*is cross sectional and *t* time identifier

The following is an extended model to estimate the moderating effect of bank type.

$$\begin{aligned} \text{ROE} &= \alpha_1 + \beta_1(\text{CA} * \text{M}) + \beta_2(\text{AQ} * \text{M}) + \beta_3(\text{MEQ} * \text{M}) + \beta_4(\text{ER} * \text{M}) + \beta_5(\text{LM} * \text{M}) + \varepsilon \\ \text{ROA} &= \alpha_1 + \beta_1(\text{CA} * \text{M}) + \beta_2(\text{AQ} * \text{M}) + \beta_3(\text{MQ} * \text{M}) + \beta_4(\text{ER} * \text{M}) + \beta_5(\text{LM} * \text{M}) + \varepsilon \\ \text{NIM} &= \alpha_1 + \beta_1(\text{CA} * \text{M}) + \beta_2(\text{AQ} * \text{M}) + \beta_3(\text{MQ} * \text{M}) + \beta_4(\text{ER} * \text{M}) + \beta_5(\text{LM} * \text{M}) + \varepsilon \end{aligned}$$

Where:

1. **M = Bank Type (1=Islamic and 0=Conventional)**

After analysing all collected data, we derived the following results:

Table 3 – Summary of Comparative Analysis of IBs and CBs

| PERFORMANCE MEASURES | CB | IB | COMMENTS |
|---|-------|-------|---|
| PROFITABILITY | | | |
| ROA | 2,5% | 0,4% | Conventional banks are dominating in ROA |
| ROE | 9,08% | 2,08% | Conventional banks are dominating in ROE |
| NIM | 4,0% | 3,6% | Conventional are dominating in NIM |
| CAPITAL ADEQUANCY | | | |
| ETAR | 15% | 85% | IB are dominating in Capital Adequacy |
| ASSET QUALITY | | | |
| LLR | 17,8% | 4,8% | Islamic banks are dominating in Asset Quality |
| MANAGEMENT QUALITY | | | |
| LDR | 124% | 180% | IB are dominating in Management Quality |
| EARNINGS | | | |
| COSR | 89% | 230% | CB are dominating in Earnings Quality |
| LIQUIDITY | | | |
| NLTA | 66,8% | 26,4% | IB are dominating in Liquidity |
| Note-Provided by author based on own analysis | | | |

According to table 3, we can understand that Islamic Banks are dominating in Capital Adequacy, Asset Quality Management Quality and Liquidity as comparing to Conventional Banks. In order to test the set of hypotheses stated, one-way ANOVA is used to evaluate whether there are significant statistical differences in the performance of Islamic banks

and conventional banks based on the CAMEL model measures.

H0: There are no significant differences between Islamic and Conventional Banks

H1: There are significant differences between Islamic and Conventional Banks

The general rule is that;

If sig. < 0.05 – Reject H0 If sig. > 0.05 – Do not reject H0

Table 4 – Summary of One-way Anova Test

| Performance Measure | Hypothesis | Decisions | Comment |
|---------------------|---|----------------------|---------------------------------------|
| Capital Adequacy | H1: Islamic banks have better capital adequacy measures than conventional banks. | DO NOT REJECT | 5,5>0,05 no significant differences |
| AssetQuality | H2: Islamic banks have better asset quality measures than conventional banks | DO NOT REJECT | 0,08>0,05 no significant differences |
| ManagementQuality | H3: Islamic banks are better than conventional banks in management quality . | REJECTED | 0.000 < 0.05 significant differences |
| Earnings | H4: Islamic banks have higher earnings than conventional banks. | REJECTED | 0,005< 0.05 significant differences |
| Liquidity | H5: Islamic banks manage their liquidity more efficiently than conventional banks. | DO NOT REJECT | 5,5 > 0.05 no significant differences |

The regression analysis was provided, to explain how any change in the independent or explanatory variables (internal CAMEL factors) will affect the determinants of profitability (ROA, ROE and NIM). Six regression models were estimated. In the pure regression model, all internal factors are taken into consideration and a regression is run on all banks in the sample. However, in the second type of regression model, the moderating role of bank type on the performance of banks is accounted for to evaluate whether the differences in banking systems will have an altered impact on profitability.

Now let us to compare this pure model with the one that contains dummy, whereas in pure model they are excluded, in order to see whether this exclusion will have more effect on determinants of profitability by explanatory variables (see table

5). We can see that there is no much difference in terms of significance and coefficients as well, in other words the exclusion of macro variable and dummy does not change influence of explanatory variables on dependent variables or determinants of profitability. The results of the majority of bank-specific internal factors; capital adequacy, asset quality, management quality and earnings have not changed significantly after being moderated by bank type. Capital adequacy had a positive significant relationship with ROE and ROA in the pure regression model, while after being moderated it now has a negative insignificant relationship with ROA and ROE. Moreover, as indicated below, the coefficient determinants (R2 and adjusted R2) of the regression models increased in magnitude as a result of the moderating effect.

Table 5 – Coefficients of determination before and after moderation

| ModelFit | PureRegression Model | | | Moderated Regression Model | | |
|--------------------|----------------------|--------|-------|----------------------------|--------|--------|
| | ROA | ROE | NIM | ROA | ROE | NIM |
| R2 | 17,35% | 16.58% | 32,8% | 17,49% | 16,67% | 33,69% |
| ADJUSTED R2 | 7,36% | 14,47% | 25,2% | 5,97% | 16,35% | 24,5% |
| % Change | 0,8% | 1,13% | 2,7% | | | |

From the table 5, we could see that changes are not so high. Hence elaborating that bank type does not have a significant effect on the profitability and

financial performance of banks Kazakhstan region as elaborated by the coefficient of determinations of both categories of regression model.

Table 6 – Summary of variable coefficients before and after moderation

| Performance Measure | Pure Regression Model | Moderated Regression Model | Comment |
|---------------------|-----------------------|----------------------------|---|
| CAPITAL ADEQUACY | Significant | Significant | No moderates the relationship between capital adequacy & bank performance |
| ASSET QUALITY | Significant | Insignificant | Moderates the relationship between asset quality & bank performance |
| MANAGEMENT QUALITY | Insignificant | Insignificant | No moderates the relationship between management quality & bank performance |
| EARNINGS QUALITY | Insignificant | Insignificant | No moderates the relationship between earnings bank performance |
| LIQUIDITY | Insignificant | Insignificant | No moderating effect on bank performance |

We concluded that ownership identity, did not moderate the relationship between bank performance and its determinants and hence the ownership status appeared to be insignificant in affecting the profitability of IB and CB.

Conclusion

As previously stated, a country's economic growth, among several other factors, is based on its financial sector's performance, especially the financial institutions working in that country; with the banking sector being the most prominent. Due to the banking sector's significant role in the wellbeing and stability of any economy, it is imperative to constantly monitor and evaluate banks' performance to guarantee that the economy's financial sector is operating efficiently. Islamic banks dominate conventional banks in capital adequacy, asset quality, management quality and Liquidity, while they are weaker in Earnings management and profitability. In addition, one of the reasons why Islamic Banks in Kazakhstan is

less profitable is simply to say that it is only on the growth stage.

Moreover, we found statistically significant differences in the performance of Islamic and conventional banks earnings and management quality, while no significant differences existed in capital adequacy, asset quality and liquidity of both banks. Finally, the results of the regression analysis revealed that the most significant bank-specific internal determinants of bank performance in Kazakhstan over the period 2010-2014, were capital adequacy, asset quality and management quality. However, after considering the moderating role of bank type in the regression model, we discovered insignificant differences in the coefficient of the parameters and their significance levels changing rapidly. The empirical results of our study at times were consistent to those of previous literature studies, but at times contradicting results were discovered. The percentage of dependent variables explained by Independent are the following: ROA 17, 35%, ROE 16, 58%, NIM 32, 85. And bank type does not have a significant effect on the profitability and financial performance of bank.

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