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# SO CALLED "PRIVATE" OWNERSHIP STRUCTURE IN KAZAKHSTANI BANKING BUSINESS MODEL. INDUSTRY PERFORMANCE EVALUATION

**Abstract.** This study is concentrated on the examination of whether ownership structure of bankshasa direct effect on the performance of the financial institution in transitional economy of Kazakhstan. Many of the emerging economies presuppose the concentration of power both the political and economic in the hands of the single subject. This concentration negatively affects the overall development of the economy and in particular causes slow adjustments to the world financial markets and as a result slowdowns the transmission from planned to market economy. Therefore, the examination of the ownership structure of the financial institutions has a special importance in studies covering the emerging markets. Our prospect is to study the question of effect of ownership on the bank performance, where ownership is a qualitative factor. The model in the study covers both qualitative and quantitative factors. Bank specific, macroeconomic and country level factors observed and included into the regression model with effect of both external and internal shocks like financial crisis and local devaluations during the examination period of 2008 and 2017 years.For the robustness of the tests, the performance evaluated through the factors of return on assets and net interest margin. We expect the study to help clarify whether there is a need for more regulation and deeper overall industry supervision that will result in new policy implications and direct reforms.

**Key words:** Bank Performance, Bank Ownership Structure, Crisis and Devaluation.

## 1. Introduction

The question of what is the level of the performance of the banking industry requires understanding of what are the main contributing factors that help identify the level of it. Considering the regulatory and supervisory frameworks and overall bank industry positions will help rightly identify the necessary variables to take into account when researcher examines the performance level. The country development criteria is the other important consideration that will make the influencing factors be different for the countries in transition or in emerging markets compare to developed world economies. Hence, the view to take into examination the bank specific, macroeconomic and country level variables seem to be well reasoned but as well need to be completed by the non-number influencing factors. Hence, the regulatory framework closely interrelated with supervision of the industry requires the international norms like Basel III to be taken into consideration. These types of norms applied mostly to the developed countries and adjusted with some applications to the emerging developing countries. Therefore, these norms may not completely be able to reflectand help the transitional economies truly increase their levels of development. Moreover, the regulatory bodies and their control levers may as a result be inefficient. Hence, this reasoning suggest that additional factors that can be specific to the country are necessary to be included into examination. The specifics of the transitional countries and generally poorly developed financial markets presuppose the necessity to examine the final beneficiaries of the of the business outputs. Hence, apart from the examination of risk and return of the industry, a separate study of the effect of the owners on the business need to be done in the framework of the current model. This is necessary because one of the prerogatives and especially after the financial crisis was to increase the prudential norms and the levels of the risk appetite with the help of loan rate frames for the financial institutions. Because the bank, in our case, is the source of both risk and return, both the assets and liability parts are necessary to be considered. The examination of the systematic and specific to the bank risk is dependent in many cases on the way

financial institutions raise the funds. We already said that the transitional economies generally have poor financial intermediary levers. Hence, the financing mostly flows from the equity holders in these type of economies. The next stage is the allocation of these resources. The poor performances of managers will lead up to the poor overall performance of the whole institution even if the resources are available. The above reasoning identifies the owners of shares as crucial and the most powerful players of the market in emerging economies. However, the resources of the planned economies were biasedly distributed directly to the institutions with no market rates; the change to the transitional conditions required different level of participation from the financial institution owners. This was not the case in the early stages of the transition and is still the case in some of the countries of post planned economies. Largely there were no other owners apart from the central apparatus in the planned economy banks. The primary role of the bank was the transmission of funds to the state companies as a rule. Therefore, the norms like Basel III[1] require higher own capital provision for the cases of systematic risk that might occur and more scrutinized examination of the loans given to diminish the non-payment loan percentage of the portfolio. The other problem as was mentioned in the study of Kaliyev (2019) is that the holder of the financial institution and the regulator who is in charge of reforms taken in the industry can be the same subject in these economies. This is the concentration of power and it can negatively affect the market.The concentration of power whether financial or political is a specific matter for most of the transitional countries. Therefore, the examination of the shareholders of the banking business and adding this factor into the model in studying the performance level of the industry is crucial. As was stated by Nurymova at al. (2019), the modernization of financial system of Kazakhstan is strategically important for the state to diminish its integration into the financial markets.

## 2. Background

The heritage of the post-soviet union with the planned economy market definitely had its own effect on the structure of the newly born economy of independent Kazakhstan. The financial sphere in the early stages of the transition was far from the one we consider market economy today. The planned distribution of the resources took place in the early transmission years and the gradual move towards the market economy and the options of the international financial intermediaries were slowly arising. It is now almost thirty years of independent history and we can see that the changes in all areas have been taking place. In the economic perspective, the corrections were at hand with the shocks that took place both externally and internally. The world financial crisis of (2008), previously took place crisis in Asia (1997) and Russian ruble crisis (1998) had their print on the way economy was developing. In terms of the banking industry, the number of the institutions were getting smaller over the period. Apart from that, the problems with the macroeconomic position at the country level made the government and the central bank interfere with the sharp decisions to devalue the local currency several times during the examination period. The factor considered as the internal shock and was added to the model of the study. Generally, the number of financial institutions in the period of three decades declined from around two hundred to thirty. That trend shows the market had number of institutions not fit and as a result, they went out of it. However, it showed that more supervision and regulation of market economy conditions were necessary. The control of allocation of the resources and more capital provision from the shareholders became higher. Not many owners of the institutions were able to satisfy these prudential norms. Some of the institutions merged and some were acquired as the result by the banks with higher capital. Following the studies of Pak (2017) and Abdullah et al. (2014), we are applying as the performance measure the return on assets that is covered in many studies and net interest margin, which is helpful to catch up the spread between revenues and costs. That difference will help identify the level of fund raising of the banks. The primary purpose of the study is to evaluate the effect of ownership with influence of the macroeconomic shocks on the performance of banking industry in Kazakhstan.

The paper is then followed by section 3 - the literature observation, section 4 - the data observation, section 5 - the methodology, section 6 – the findings and section 7 – concludes.

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[1]Basel Committee on Banking Supervision, (October 2014).

### 3. Literature review

The ownership structure of the financial institutions had been studied previously in many works but for the developed markets mostly. This section covers the observed literature and overall findings of these works.

### 3.1. Political motives

Dinc (2005) studied the way state owned banks do the lending with the political influence. He states that in election years the lending volume increases significantly for more than 10 %; that is in general approximates to the 0.5 % of the whole GDP for the median country. Author says that apart from US many countries are practicing state ownership of the banks. If that is the case, then the government is not only regulating and supervising but as well interfere into the financial movements of the market. State banks help economic development by financing the social projects that are not in the core interest of the private banks. La Porta et al (2002) argues that this statement is not true and generally state banks pursue their own targets be complete. Moreover, Caprio et al (2000) states that governmental banks have higher probability of failure because their targets are more political driven. Iannota et al (2012) examined the effect of the ownership structure on the bank performance through the comparison of the banks considered state and private. Generally, their overall findings suggest that governmental banks tend to have lower default risk, but higher operational risk. The other finding is that electoral cycle differs in state and private banks. European banks has changed a lot in times. They have been bailed out by their governments and in many cases proceed to be partially governmental. Therefore, the structure of the European banks is very diverse in terms of shares. However, as authors state and is written in many of the related literature, the risk is higher for these types of banks, the competition level decreases for them as well as market discipline. In their study, authors examine both default and operating risks for private and state owned banks. On the other hand, authors suggest that the better performance is not the case with the better business model. There are negative moments that contribute to structure of the shares with state owners. As we already stated, low competitiveness, cost, politicians running the decisions in their own interest and eventually the taxpayers paying for this decisions. Since these banks take more risky projects, the moral hazard problem can take place as a result.

### 3.2. State vs private

Micco (2004) studying the bank ownership structure states that state owned banks are more responsive to macroeconomic shocks and therefore able to smooth down the overall credit structure in the particular country. Foreign banks in the times of positive economic conditions can increase their lending volume by an access to the cheaper funds they can get from parent bank. The question of the following paper is whether state owned banks are less responsive towards different macroeconomic shocks. In particular, that is related to the lending strategy. There are few points authors signify stating why state owned banks affect the stability of the market. The first is that the credit stabilization is generally the fact why these types of banks exist. The second is that clients prefer to trust state banks in times of the crisis. Another question authors ask; what is the effect of foreign banks' presence in the market? The study of La Porta et al (2000) is concentrated on the examination of the governmental ownership of banks. The overall findings of the paper suggest next four primary points. The first says that governmental ownership is large around the world. The second, governmental ownership is high in lower developed countries. The third is that it is associated with low financial development. The fourth is that it is as well associated with low per capita income growth. Micco et al (2006) examine the relationship between performance and ownership within the banking industry. General findings suggest that developing countries in economic terms tend to have lower profits for the state owned banks in comparison with private ones. As for the relationship between the factors themselves, authors state that it is quite low. The work of the Barth et al (20..) studied the evaluation of the different ownership structures and the stability of the banking systems of the countries. There are findings that were outlined by the authors; the first one states that it is not exactly clear whether the decrease in the activities of the commercial banking will benefit the whole banking industry under the examination. The other finding is that mixing banking and commerce is not necessary will bring the positive results. The third one states that restrictions can lead to the higher probability of risk under crisis. On the other hand, the mixture can lead to low financial stability. The fifth, the higher is the governmental participation; the lower is the overall bank development. This finding goes in line with most of the literature of the field. Generally, higher regulation pose more negative effects than positive

ones as researcher states. Sapienza (2002) studied how lending behavior is affected by the government ownership of banks. How the two types of ownership, state and private, decide on their lending strategy. Study states that state owned banks charge less than private in all options charges and tend to prefer to finance large firms and more depressed regions. Altunbas et al (2…) have studied the efficiency effect of banks with different types of the ownership structure. The main study interest is the cost and profit evaluation of these different structured banks. General suggestion that the privately owned banks are not having significant efficiency difference than other two bank ownership structures, namely mutual and state owned. The study of the effect of ownership on the performance of the banks has been conducted by Cornett et al (2005). The primary question of the paper is the difference between the state and private ownership and how the performance is affected. Preliminary overview of the work states that the state owned banks tend to be less efficient and exposed to greater risk in terms of the financial stability with much lower capital. The main reason for that as outlined by the authors is that the managers or the political representatives directly linked to the decision making are misbehaving. Authors refer to the works of Shleifer (1998), who states that the private ownership is better in terms of innovative schemes. However, the benefits distribution is highly concentrated for the private owners themselves. This is the negative point of the private ownership. Generally, ownership structure is one of the predominant factors explaining the level of the performance as it is outlined in the relevant literature. Ownership mainly categorized as first insider vs outsiders, and second state or private ownership. As for the state owned banks, they are not performing significantly better than private ones.

### 3.3. The effect of crisis

Allen et al (2013) have studied how banks in transitional economies of Central and Eastern Europe react to crisis with their different state or private structures. Authors find that foreign banks increase the level of lending and state owned banks decrease during the times of the domestic crisis. In times of financial global crisis, the lending structure works the other way around. The reasoning seems like the foreign banks are helpful whenever there is a crisis in the home country and can negatively affect the industry during the world wide crisis and act as the route of transmission of the crisis to the local markets. Hence, authors say that the existence of the combination of banks with different ownership structures can be the best option for the market. Kowalewski et al (2011) stated that state owned banks play important role for the whole industry in the times of world financial distress. However, authors say that it is unclear whether these state owned banks are helpful in stabilizing the market. De Haas et al (2011) stated that head banks were of not much help for their subsidiaries in the times of global financial crisis. Authors say that liquidity and the overall deposit level are important composites of the credit growth. The paper findings are the next: foreign banks increase lending in times of local crisis and decrease in times of global crisis; bank specific characteristics are important for the transition through the crisis times; deposits and liquidity are important factors for the lending volume growth. Kishan et al (2000) state that undercapitalized banks are more dependent on the monetary shocks and weaker in terms of the possible problems like moral hazard. Authors say as well that lending behavior is strongly dependent on the bank specific variables. However, the interrelationship between foreign subsidiary and its parent bank has an effect as well.

### 3.4. Regulation and control

Bonin et al (2013) has studied the banking of the transition countries. Despite the fact of the weakness of the banking in terms of control, legal and regulatory norms and apart from that the outside effect factors like world financial crisis, many of the transitional economies coped well with transformation of the formats. Authors state an interesting point that in a planned economy banks generally play no special role. Problems of the transition are bad quality loans, no proper regulatory framework as well as the process of the privatization. Further, they state that the second stage of the privatization is the process when foreign banks are in the market to privatize the local industry banks. In the transitional economies, the financial market is in most dominated by the banks, as the again stated by the authors and the allocation of the resources as stated in many previous studies is the planned process rather than through financial intermediation as should be done for the efficiency of the market. The primary problem of the newly created banks is no experience in risk evaluation and the examination of the borrowers lending abilities. Planned economies never considered these moments as primary in their banking lending to the enterprises. Stiglitz (1999) studied general view of the overall examination of the effect of the governmental

intervention in the banking business industry. Despite the old date of the publication, still this is the work that has many of the basics and its' examination might help. The work suggests that there are different types of effects of the intervention. In terms of regulation, it is mostly related to prudential norms. In regards to the intervention, the related areas are credit policy, financial repression and competition. However, as the author clarifies on what will be exact actions on the part of the government intervention into the banking industry, the question is still open and very diverse. In general, the good intention of the government is to make sure that the scarce resources allocated correctly. That will help the overall economy prosper. The financial market has specifics that are affecting the economy differently than all other markets. There are many regulations that are necessary to be. However, as author states, the implementation is quite poor. The following study of Andrianova et al (2009) examined the effect of the governmental ownership of the banks on the economic growth. The main message is that privately owned banks are not always performing better than the state owned ones if certain circumstances will take place. Authors state that historically one of the reasons for the banks to be overtaken by the state is the crisis. Their decisions are in most cases politically biased. On the other hand, the correlation between governmental ownership and other macroeconomic factors as the authors state can be very high. Therefore, the results must be taken and interpreted with caution. Another one interesting finding of the work is that depositors mostly prefer state owned banks, they consider them more stable. In terms of the factors, authors suggest that both political and historical are less significant than the institutional factor in the model. Crisis as a factor affects the ownership structure, that goes in line with many findings of the related studies. Generally, authors are trying to understand, what is the long run effect on the growth of the banks with state ownership structure.The other point is that the quality of the local institutions play important role for the further development and transition into open market economy. The infrastructure they work in, the legal framework are of high importance. Some of the studies like Djankov et al (2007) found that the better is the legal structure, the better is the financial development. In general, we can probably state that the quality of the financial institution attributes the highest to the better financial position of the institution itself in a new open market conditions.

### 3.5. Foreign ownership

Bonin et al (2003) investigated how foreign ownership affects the banking sector for the transitional countries. Authors use four efficiency scores for the robustness of the results and GDP growth to control the country specific effects. Findings of the work suggest that international investors are interested in cherry picking. In addition, authors say that foreign ownership matters. Banks with foreign participation are more efficient than local banks. Claessens et al (2001) suggest that the entry of foreign banks diminish both the profits and overhead expenses for the local banks. Prior to the transition, most of the economies were in a position of planned allocation of resources. Thereafter, the creation of the two tier banking system led to the number of unhealthy and undercapitalized banks. Buch (1997) stated that the entry of foreign investors or foreign ownership into the banking industry of transitional economies increase the level of competition. Shleifer (1998) in his work on the way of how ownership structure affects the business cycle says that in general private ownership is much better option compare to the public one. Private ownership is motivating to innovate. Hence, it makes the business grow. However, on the other hand, it pays much lesser attention towards the social projects. Author draws the parallels in this regard with socialism and says that there are many studies scholars do in the discussion of whether socialism is good or bad. Generally, the study is mainly concentrated on the ownership structure of different entities. It seems like more developed countries in majority of the cases prefer to devote the business directions into the hand of the private owners. Following the big volume of the literature, the success of the banking industry in the transitional economies depends on the foreign banks coming into the industry with their knowledge, technology and mainly experience. Haselmann et al (2016) argue that many other factors like legal system, credit institutions and the structure of the regulation play important role in the successful establishment of the banking industry formation.Bonin et al (2005) said that in the early stages of the formation of the open banking industry of the transitional economies, the crucial role-played the early entries of the foreign banks and investors into the local markets. These new players mainly facilitated the credit booms for the households. Despite the increase in overall business volume, the foreign entries brought the risk to the local markets as well. The idea is that the advantages and the disadvantages of the world economies in the face of the crisis can be transmitted to the local markets through these newly

established institutions. Foreign investments this way then can be considered as the source of the risk. They then needed to create the financial cushions for these type of the risks. Claessens et al. (2000) has studied the effect of foreign banks entering the domestic banking industry. The main measure is the estimation of how the foreign and domestic banks' measures like interest margins, overheads and others are affected. The authors suggest that increased presence of the foreign banks tend to decrease the profits of the local banks. Levine (1996) has addressed that foreign banks' presence in the markets of developing countries can improve the efficiency of the overall industry level. Stiglitz (1993) in his work states that foreign ownership or foreign banks' presence can as well increase the costs for the local banks. Authors as well say that local businesses usually have lower access to the options foreign banks offer. They presuppose to work with international companies more. The following paper considers banks as foreign if the ownership structure of the banks at least 50 % foreign owned. Findings suggest that measures like profitability, expenses and interest margins are higher for foreign banks in developing market economies and otherwise in developed countries. In regards to the number of foreign banks in the market, authors say that the higher is the number the lower is the profit for the local banks. Borovichka (2007) has studied the question of the bank efficiency of the European countries that were acquired by the foreign owners partially or in full. Author implied the two-stage methodology with the first panel probit model and then stochastic efficiency frontier. Generally, author states that the effect of foreign acquisitions of the local banks is negative in terms of the cost. Bonin (2003) summarizes that for the transitional economies the efficiency of the banking industry is quite important. The reason for that is that other options in the financial markets of the transitional economies are rarely available. Hence, the banks play the role of the core financial institution. However, for the effective work of the financial market, the importance of the financial intermediation is quite important. Therefore, in the low developed financial markets, the allocation of the resources is the privilege of the banks. Author says that foreign owners are presupposed to bring their international practices and as a result enhance the level of the banking in theory. The other important point is that cream skimming is the effect that usually foreign owners are doing. The best and the most efficient banks are targeted in the market. Local banks can have better knowledge of the local market and that can be a comparative advantage for them. Therefore, foreign banks acquiring new banks in new markets will most likely face additional costs. In regards to the methodology, author points out that in many studies related to the transitional economies the quality of the calculations and estimation methodologies is low. In regards to the bank efficiency, the foreign participation in the local markets positively affects the efficiency. Bonin (2005) states that foreign ownership of the banks presuppose lower loans. Philippatos (2002) states that high costs and low profits is the picture of the foreign banks acquiring local banks. Generally, literature states that there are both positives and negatives of the foreign owners coming to the local banking industry. The positive side of the investments are clear. In regards to the negatives, additional financial inflows are not helping the market itself develop. Hence, summarizing the work of the author we can probably say that the relationship between efficiency of the banking industry and foreign ownership is at best mixed. Some of the authors, in example Rossi (2004), pointed out that generally the efficiency of the banking industry for the transitional economies are having a positive tendency.

### 3.6. Privatization

Bonin et al (2004) studied the effect of privatization in transitional economies. Four different bank ownership types are considered. Authors regress privatization and ownership functions taking the dummy variables for different bank types. Authors as well suggest that for the efficiency of the privatization process the timing is one of the crucial points. Hence, the earlier the bank is privatized the possibility of the more efficient bank is higher. For the transitional economies, the change from the central apparatus to market economy is one of the usual practices. The question is whether these changes help improve the performance of the institutions. Generally, the literature of the area subject states that private banks are more efficient than the governmentally owned ones. The studies like La Porta et al (2002) suggest the following findings. Hence, we can probably agree with authors that the ownership structure has an impact on the efficiency of the institutions. Other point that is outlined by the authors is that having foreigners in the market help improve overall industry level. That is why we can as well agree with some of the works suggesting that buyers are important and mostly it is their contribution for the privatization to be successful. Following the literature, centrally planned economies largely perform the functions of

financing the state enterprises to satisfy the output. Large savings banks in planned economy transitional countries mostly operate to collect the deposits form the clients. The banks under the examination of the following study have at least 2 % of the overall market assets. Generally, big portion of the banks in transitional economies face the privatization process. Authors categorize the observations into four types/groups: foreign, domestic private, state owned and privatized. Some of the buyers have cleaned the banks from the bad loans prior to the privatization and as a result, their equity almost equalized to the levels of foreign banks and loan loss provisions increased. ROA and NIM are taken as a measure performance evaluation. The performance is evaluated prior and after the privatization process. General picture of the study of the performance shows that performance levels from top to bottom goes in the next list: foreign, privatized, state owned and domestic banks. ROA one of the most applied measures of performance. To take into the commission and fee for service activities, authors apply the net interest margin as an additional measure of performance evaluation. Interesting finding of the paper is that privatized banks have even higher returns of the commission and fees for the services than foreign banks. This is reasoned, as the possible fact of the owners of privatized banks be foreigners. The cost side generally is high for the privatized banks as they incur spending to the areas previously neglected. The regression models were build following the works of Berger et al (2000) and Bonin (2003) applying stochastic frontier analysis (SFA). Findings of the work suggest that foreign banks are more cost and profit efficient than state owned banks. Privatized banks are less cost and profit efficient then domestic private banks. From this, we can probably summarize that foreign participation in the ownership structure of the bank improves the efficiency of the bank. General findings suggest that the least efficient bank type is the state owned bank and the most efficient is the foreign one. The effect of the existence of the foreign and privatized banks enhance the overall industry level. In addition, authors summarize that the most important point about the privatization is the proper timing and the methodology. However, privatized banks tend to face higher costs as they need to reimburse weak points of the bank that was before the privatization. Authors suggest that to evaluate the effect of the privatization, the application of only the performance measures is not enough.   Andrews (2005) has studied the possibility of the relationship between the banking sector crisis and the effect of privatization of the state owned banks. Data has covered 65 banks.  Generally, the question is whether state owned banks are less preferable than privately owned banks. As author says the literature is telling that privately, owned banks are more efficient and have better effect on overall economic growth. The literature following the historical view states that governmental ownership with the privatization is the case for the industry crises. The reasoning behinds these two options is the weakness of the system that requires the financial inflows. The idea is that banks with the governmental participation are in many cases arise during the crisis. However, the literature trend states that the existence of these type of banks in majority of the cases worsens the overall industry levels. The main reason for that is the low efficiency levels of state owned banks as they target different objectives. State owned banks tend to have more support from the government and that causes inefficiency.

## 4.  Descriptive analysis

### 4.1.  Data

The financial data has been collected through the Bloomberg financial information resource for most of the specific to the bank variables, macroeconomic and country specific data was obtained through the local central statistical agency and the statistical resource from the National Bank of Kazakhstan. Categorical variables of ownership structurefor every bank, devaluation and crisis periods have been hand collected andmainlycollected from the bank financial statements. Majority of the banks under examination are listed in the Kazakhstani Stock Exchange, but with almost no structural change in the share prices. Nevertheless, this resource has only been used as the database for the categorical data collection. The other important point is that some of the privately categorized banks have the owners directly linked (affiliated) with the subjects of state government. Still, in the following study we categorize these banks as privately owned as the owners of the banks are from the business areas. Following the work of Pak (2018), we have examined all 28 banks for the period. However, the panel shrieked because of the incompleteness of the data for the whole period for some of the banks. Nevertheless, in the study, the overall structure for Kazakhstani banks ownership compose around 88 % of privately owned banks. Pak (2018) stated that for the period of 2008 – 2016 years the percentage of privately owned banks in Kazakhstan was equal to 85

%. We follow the work of Dinc (2005)and categorize the bank, as state owned if the shareof the government is at least 20%. Otherwise, the bank is categorized as private and all the foreign banks are taken as private following the work of Cornett et al (2005). The descriptive statistics of the values of the performance of return on assets and net interest margin suggest that both factors are significant and account for one fifth of the overall effect each. As for the equity factor, it isas well significant and shows almost 51 %. We account that for the structure of the transitional economies. Transitional economies tend to have high concentration of power in the hands of one subject. The same subject can represent both the reformer of the industry and the final beneficiary of the reforms applied. Macroeconomic variables like GDP growth and inflation are less significant, however represent the values that are close to the true values of the economy in the examination period. On the other hand, Guidara et al (2013) stated that banks can respond to the crisis and cyclical changes differently.

### 4.2. Performance measures

The performance measures in the study are determined as Net Interest Margin (NIM), which accounts for net interest income over the assets and helps properly evaluate the spread between the costs and the revenues the bank bears. This has a direct effect on the decisions of the top management of the bank about the funding strategy. Hence, it has direct effect on the overall performance of the industry. The measures of the performance like return on assets (ROA) and return on equity (ROE) are the most used ones and therefore will be easy to cross-compare with other studies. However, the main factor is that both equity and assets have huge proportions in the accounting measures of the banks in the developing economies. Therefore, using them as performance measures is quite reasoned.

### 4.3. Country and bank specific measures

Table 1 represents the description for the dependent and independent variables with the references to the theories and studies of area.

| Table 1 - Definitions and formulas for the variables and formulas for the variables | |
|---|---|
| **Variables** | **Definitions** |
| **Performance measures** | |
| NIM | *Net Interest Income/Total Assets* |
| ROA | *Net Income/Total Assets* |
| ROE | *Total Equity/Total Assets* |
| **Industry specific measures** | |
| Loan growth | *Loan(t)/Loan(t-1)-1* |
| Credit risk | *Total Loans/Total Assets* |
| Liquidity risk | *(Total Loans-Total Assets)/Total Assets* |
| Borrowing | *Debt/Assets* |
| Investments | *Trading securities as a percentage of overall investments* |
| **Country specific and macroeconomic measures** | |
| GDP growth | *GDP(t)/GDP(t-1)-1* |
| Inflation | *CPI(t)/CPI(t-1)-1* |
| Crisis | *Dummy variable of "1" in case of crisis and "0" otherwise* |
| Ownership | *Dummy variable of "1" in case of private bank and "0" if state* |
| Devaluation | *Dummy variable of "1" in case of devaluation and "0" otherwise* |

We apply country, industry and macroeconomic variables in regression model. To cover the effect of crisis, ownership and devaluation categorical factors, the dummy is used.

### 5. Methodology

The study is based on the cross methodology application of works of Dinc (2005), Allen (2013), Dietrich et al (2014) and Micco (2006). The evaluation of the performance dependence measures of return on assets, on equity and net interest margin are estimated against macro, country and bank specific variables with stepwise inclusion of factors like devaluation, ownership and crisis categorical variables all together and separately. The following way to regress the dependent variables might help check a single

factor effect and the overall dependenceof bank performance on both endogenous and exogenous to the economy shocks. The equation is then constructed in the next format:

$$\textbf{\textit{Performance}}it = \textbf{C}it + \textbf{\textit{Ownership}}it + \textbf{\textit{Crisis}}it + \textbf{X}it + eit \qquad \textit{(equation 1)}$$

We apply commonto the area approach in examination of banking industry, we take all the variables for the specification of time $t$, and bank $i$.$C$ commonly states for the intercept and we apply error term as $e$. $X$ states for the variables specific to the bank, macro and country level. Following the previous studies and in particular of Pak (2018), we use credit risks to account the flows of credit growth. Debt and equity to assets to account for the proportions of financial intermediation; fees and commissions to account for the non-bank driven profit generation; investments as the funding variable; loans and deposits as bank specific variables controlling the assets and liabilities part. Macroeconomic variables like GDP growth and inflation are as well included into the regression model to cover the country effect. Total assets are taken in log form.To diminish the endogeneity problems of the regression we apply all the right hand side variables with the lag. We have already mentioned that in the work of Dietrich et al (2014), the variables were taken normally without lag application. That was driven with the explanation of the fact that managers can respond first time and fast to the changes that take place and can as a result decrease the risk. However, we examine the performance measures and the response to the blurred, but potentially possible risk of endogeneity, still can take place. Hence, we apply the lagged variables with the help of criteria selection test of Schwarz and Akaike. The selection criteria suggest the application of at least one lag for the most of the variables using the VAR selection criteria. We run the regressions separately and together for the categorical variables of ownership structure, crisis and devaluation as a local shock. The period of the world financial crisis have been taken as a starting point of the insolvency of the investment bank Lehman Brothers for the years of 2008, 2009 and 2010 as it was suggested and applied in the work of Pak (2017). The studies on the local shock of tenge devaluation covers first two quarters of the year 2009 and 2014 for the whole two years afterwards to cover the long-lasting effect. Ownership structure, with respect to above reasoning considered private or state only. All the three categorical factors are taken as dummy variables with the values of "1" for private, crisis, devaluation, and "0" if the ownership is state; there is no crisis and no devaluation effect. Since we apply many variables in the examination of the performance with panel data usage, it is suggested to apply a simple regression model for panel data. Hence, we regress the model with the help of Pooled effect regression model suggested as the one optimal by the test of Haussmann specification. We as well used the first differences for the variables of Size and Risk as these two variables were not stationary at levels, what was suggested by Augmented Dickey Fuller (ADF) test.

## 6.    Findings

### 6.1.  Correlation

| Table 2 - Correlation coefficients for the specific to the Kazakhstani bank variables. 2008 - 2017 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | Commission and fees | 1 | | | | | | | | | | | |
| 2 | Credit risk | -0.05 | 1 | | | | | | | | | | |
| 3 | GDP | 0.045 | 0.077 | 1 | | | | | | | | | |
| 4 | Investments | -0.534 | -0.031 | -0.041 | 1 | | | | | | | | |
| 5 | Liquidity risk | -0.123 | 0.873 | 0.073 | -0.005 | 1 | | | | | | | |
| 6 | Size | 0.032 | -0.385 | 0.004 | 0.073 | -0.415 | 1 | | | | | | |
| 7 | Deposits | 0.087 | -0.268 | 0.005 | 0.022 | -0.562 | 0.699 | 1 | | | | | |
| 8 | Equity | -0.121 | -0.156 | 0.081 | 0.03 | -0.068 | 0.405 | 0.15 | 1 | | | | |
| 9 | Loan growth | -0.031 | 0.572 | 0.063 | 0.04 | 0.449 | 0.13 | 0.307 | 0.123 | 1 | | | |
| 10 | NIM | -0.088 | 0.064 | -0.108 | -0.08 | 0.081 | 0.016 | 0.013 | 0.047 | 0.14 | 1 | | |
| 11 | ROA | 0.097 | -0.028 | -0.124 | 0.034 | -0.038 | 0.005 | 0.035 | 0.026 | -0.001 | 0.028 | 1 | |
| 12 | ROE | 0.115 | -0.013 | -0.117 | 0.035 | 0.006 | 0.142 | 0.078 | 0.091 | 0.153 | 0.085 | 0.622 | 1 |

Table 2 represents the correlation coefficients between performance measures and bank specific variables for the Kazakhstani banks. Following Pak (2017), correlation coefficients are in the next values: 0 – 0.2 scarcely correlated, 0.2 – 0.4 weakly correlated, 0.4 – 0.6 correlated, 0.6 – 1 strongly correlated.

Examining the correlation coefficients form the Table 2 among bank specific and macroeconomic variables, we can observe that factors as*Loan Growth* has a good correlation with *Credit Risk*, as the volume of loans increase, the probability that the quality of the loan taker will decrease is high attributing to the increase of *Credit Risk*. This is quite reasonable and goes in line with many of the studies from the literature. The other expectation that comes right with the true economic condition is the high correlation between the *Liquidity Risk* and the *Deposits*. The correlation between the factors is high and negative, what means that the possible problem of the liquidity in the financial institution will most likely outflow the stream of the deposits from it. This is the case in the banks withliquidity problems. The performance measures are as well highly and positively correlated. Kazakhstani banking business is very concentrated, and mostly controlled by the very small group of people. This group of people, the shareholders, in most of the cases control the equity part of the bank directly or through the representatives. Therefore, the assets of the bank can as well be under control of the group. Hence, high correlation of the equity and assets is not something that can surprise. *Loan Growth* and *Deposits* correlation is weaker for Kazakhstani market and in comparison with the previous studies of the field. Generally, the expectation is that the growth of the deposit base will boost the loan distribution, but here we can see that the correlation is not that high. Therefore, we can reason that as a positive signal that states that there are other options of the fund raising by the banks and probably cheaper than the most conservative way of deposit base increase. This means the financial intermediary is growing in the local market and banks have their benefits of it. *Deposits* as well grow well in the positive state of the economy and the correlation between the factors like *Size* of the bank and *Deposits* is as well high and positive. We assume that the size of the bank grows with the overall economy prosperity. However, there is almost no correlation between *GDP* growth and bank Size. Hence, we can probably attribute that fact to the cyclical changes in the industry. Equity is as well positively correlated with the growth of the bank *Size*.

## 6.2. Performance measures regression results

To cover the full examination of the performance of the banking industry of transitional economy of Kazakhstan, we used the methodology that was formed as the combination of the models that were applied in the works of Dinc (2005), Allen (2013), Dietrich et al (2014) and Micco (2006). For the robustness of the results, we run series of regressions indicating the dependent variables as return on assets, net interest margin and return on equity. The reasoning behind the choice of these factors was outlined in the methodology part. The model itself and the assumptions we make to the methodology applied we will discuss later in the section. The predictor variables are significant in number. We use the next measures as dependent variables: the bank size as a log of total assets, ratios of debt and equity to assets, to cover up profits flowing from not traditional to the bank sources, we use commissions and fees. The country effect is covered up by the *GDP*growth and inflation. Bank specific accounting measures like investments, liquidity risk, deposits, equity, and loan growth are as well applied. As for the categorical measures, the year dummies used for the identification of ownership structure of the bank, the outside shock of world financial crisis and the local macroeconomic shock of devaluation. For all performance measures, we run the regressions that are of the full sample, without inclusion of dummies and with each year dummy category separately. In the first sample without inclusion of dummies for the dependent variable of return on assets in the Table 3, we observe moderately significant negative effect of the *Size* of the bank on the performance measure. The literature mostly states similar outcomes as the Kazakhstani banks tend to take higher risk opportunities with their size growing or large. This goes in line with the theory of too big to fail banks, which are relying too much on the state support. This case is particularly significant in the weak markets with low financial institutional diversity.*Loan growth* consistently increases the return on assets, what can probably be reasoned as the idea that the composition of the assets have a huge part of the loans in it as was stated in the work of Altunbas at al. (2011). This support the finding why the deposits have this much highcoefficient and moderately significant effect. The *Deposit* base increases the *Loan Growth* and affects the performance positively. On the other side, we can mention the negative effect of *Credit Risk* on performance. Therefore, additional tests are required to check for the length of the positive effect on performance. Interestingly, non-traditional ways of profit generation for the banks like *Fees and Commissions* have significant positive effect. It appears that the changes in business model of banks have some positive effect on the performance of the whole industry.

In all five regressions types with respect to return on assets, the significance of the macroeconomic factor of *GDP* and of *Commission and Fees* is high. We can attribute the fact to the *GDP* growth and sequential increase in the liquidity of the private banks Pak (2018). We pointed already that our sample consists of almost ninety percent of the private ownership structure. In the full sample, world financial crisis has significant and negative effect on the performance. The ownership structure as well has negative effect but not that significant. The devaluation, on the other hand positively affects the return on assets. We assume that this can be attributed to the fact that the composition of assets can have large portion priced in foreign currency. Therefore, the local shock, in the face of currency devaluation positively affects the performance.

In the sample with only *Ownership* structure examined, we can see that the coefficient of the *Ownership* structure became positive and moderately significant in comparison to the full sample. It then means that *Crisis* and *Devaluation* can seriously undermine the effect of ownership on the performance when both factors are included into the regression model. We categorize the banking industry in the examination period for almost ninety percent as private. Hence, it seems obvious that private owners of the banks are in large dependence on the both internal and external economy shocks like world financial crisis and local currency devaluations.

On the other hand, world financial crisis hit strong in all the regression types we apply. In example, the coefficient of *Crisis* in the sample with only crisis dummy years and the full sample, the significance is high in both. Both samples' coefficients are high and negative. It only can imply that the bank stability can seriously be decreased in the times of the crisis.

Separately, the *Devaluation* effect on its own, changes the sign from full sample positive coefficient sign to alone examined negative sign. We can probably attribute that fact to the point that in full sample regression the effect of devaluation is mostly neglected for the reason of Crisis inclusion. This can be reasoned as the multicollinearity effect that can take place between these two predictor variables. We further will discuss the matter of multicollinearity as one of our methodology assumptions in this section. Analysis of bank specific variables in all the regression sections for the return on assets performance measure shows not much difference in all applications, stating that the effect of the changes is mostly attributed if the industry is affected by the shocks and ownership structure changes. Finally, we need to point that the choice of the predictors in the regression sections with return on assets are significant as the value of adjusted r-squared shows and the model is in general significant as the F-statistics indicates.

| | None | | | All | | | Ownership | | | Crisis | | | Devaluation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Table 3 - Kazakhstani Bank Performance Measure. 2008 - 2017. quarterly based.** | | | | | | | | | | | | | | | |
| Dependent variable: the Return on Assets (ROA) | | | | | | | | | | | | | | | |
| Method: Panel least squares. Pooled regression model. | | | | | | | | | | | | | | | |
| | None | | | All | | | Ownership | | | Crisis | | | Devaluation | | |
| | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. |
| *Credit risk* | -3.04 | -0.263 | * | -2.132 | -0.185 | * | -3.115 | -0.269 | * | -2.788 | 11.444 | * | -3.743 | -0.323 | * |
| *Debt to Assets* | 0.075 | 0.97 | ** | 0.075 | 0.985 | ** | 0.076 | 0.984 | ** | 0.076 | 0.076 | ** | 0.075 | 0.966 | ** |
| *Equity to Assets* | 0.131 | 1.045 | ** | 0.151 | 1.208 | ** | 0.142 | 1.125 | ** | 0.159 | 0.125 | ** | 0.141 | 1.118 | ** |
| *Fee* | 1.029 | 1.737 | *** | 1.212 | 2.045 | *** | 1.061 | 1.789 | *** | 1.172 | 0.587 | *** | 0.996 | 1.677 | *** |
| *GDP* | -0.293 | -2.84 | *** | -0.312 | -2.585 | *** | -0.244 | -2.169 | *** | -0.307 | 0.102 | *** | -0.325 | -2.976 | *** |
| *Inflation* | -0.066 | -0.838 | ** | -0.03 | -0.336 | * | -0.083 | -1.036 | ** | -0.062 | 0.078 | ** | -0.093 | -1.103 | ** |
| *Investments* | 0.012 | 0.994 | ** | 0.012 | 0.983 | ** | 0.011 | 0.906 | ** | 0.012 | 0.012 | ** | 0.012 | 0.96 | ** |
| *Commission* | 0.021 | 2.319 | *** | 0.023 | 2.552 | *** | 0.021 | 2.368 | *** | 0.022 | 0.009 | *** | 0.021 | 2.322 | *** |
| *Liquidity risk* | -2.21 | -0.206 | * | -3.625 | -0.34 | * | -2.459 | -0.229 | * | -3.335 | 10.638 | * | -1.981 | -0.184 | * |
| *Size* | -6.012 | -1.156 | ** | -6.1 | -1.184 | ** | -6.096 | -1.173 | ** | -6.054 | 5.104 | ** | -5.905 | -1.135 | ** |
| *Deposits* | 3.461 | 0.828 | ** | 3.013 | 0.727 | ** | 3.414 | 0.817 | ** | 3.119 | 4.132 | ** | 3.534 | 0.845 | ** |
| *Equity* | 1.621 | 0.681 | ** | 1.643 | 0.694 | ** | 1.544 | 0.648 | * | 1.501 | 2.355 | * | 1.477 | 0.619 | ** |
| *Loan growth* | 3.761 | 0.768 | ** | 4.714 | 0.967 | ** | 4.074 | 0.83 | ** | 4.918 | 4.859 | ** | 4.117 | 0.837 | ** |
| *Ownership* | | | | -0.402 | -0.536 | * | 0.707 | 1.091 | ** | | | | | | |
| *Crisis* | | | | -2.336 | -2.793 | *** | | | | -1.912 | 0.64 | *** | | | |
| *Devaluation* | | | | 0.431 | 0.628 | * | | | | | | | -0.544 | -0.895 | ** |
| R-squared | 0.642 | | | 0.896 | | | 0.674 | | | 0.818 | | | 0.661 | | |
| Adj. R$^2$ | 0.234 | | | 0.412 | | | 0.239 | | | 0.454 | | | 0.228 | | |
| F-test | 15.743 | | | 18.653 | | | 15.509 | | | 20.669 | | | 15.251 | | |
| Observations | 360 | | | 360 | | | 360 | | | 360 | | | 360 | | |

This table shows the regression coefficients of the Return on Assets performance measurement model for the sample of Kazakhstani privately owned banks. Following Dinc (2005), we evaluate private ownership type as 20 % least. Following Cornett at al. (2009), we consider all foreign banks as private. 88 % of the whole industry represent privately owned banks. The explanatory variables are in *Italics* and represent bank specific, macroeconomic and country specific factors. Five types of regression models applied. None – only the explanatory variables with no categorical factors. All – full sample with three categorical year dummies applied. Ownership, Crisis and Devaluation – explanatory variables with private ownership structure, crisis and devaluation dummies separately examined, respectively. Significance levels of the probability values are indicated as the next: ***, **, * significant at 1, 5 and 10 % levels, respectively.

| Table 4 - Kazakhstani Bank Performance Measure. 2008 - 2017. quarterly based | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dependent variable: the Net Interest Margin (NIM) | | | | | | | | | | | | | | |
| Method: Panel least squares. Pooled regression model. | | | | | | | | | | | | | | |
| | None | | | All | | | Ownership | | | Crisis | | | Devaluation | | |
| | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. |
| Credit risk | -5.174 | -0.906 | ** | -4.758 | -0.851 | ** | -5.059 | -0.9 | ** | -5.342 | -0.956 | ** | -4.132 | -0.728 | ** |
| Debt to Assets | -0.003 | -0.08 | * | -0.004 | -0.112 | * | -0.005 | -0.126 | * | -0.004 | -0.096 | * | -0.003 | -0.072 | * |
| Equity to Assets | 0.032 | 0.514 | * | 0.005 | 0.087 | * | 0.016 | 0.257 | * | 0.014 | 0.224 | * | 0.017 | 0.283 | * |
| Fee | -0.343 | -1.174 | ** | -0.408 | -1.415 | ** | -0.392 | -1.362 | ** | -0.438 | -1.527 | ** | -0.294 | -1.012 | ** |
| GDP | -0.184 | -3.626 | *** | -0.202 | -3.436 | *** | -0.26 | -4.767 | *** | -0.175 | -3.515 | *** | -0.137 | -2.56 | *** |
| Inflation | -0.048 | -1.247 | ** | -0.017 | -0.406 | * | -0.022 | -0.56 | * | -0.051 | -1.347 | ** | -0.008 | -0.199 | * |
| Investments | -0.008 | -1.291 | ** | -0.006 | -1.057 | ** | -0.006 | -1.037 | ** | -0.007 | -1.218 | ** | -0.007 | -1.203 | ** |
| Commission | -0.007 | -1.576 | ** | -0.008 | -1.879 | *** | -0.008 | -1.763 | *** | -0.008 | -1.886 | *** | -0.007 | -1.6 | ** |
| Liquidity risk | 2.625 | 0.495 | * | 3.152 | 0.608 | * | 3.009 | 0.576 | ** | 3.372 | 0.649 | * | 2.285 | 0.434 | * |
| Size | -5.051 | -1.969 | *** | -5.027 | -2.008 | *** | -4.92 | -1.948 | *** | -5.023 | -2.002 | *** | -5.209 | -2.049 | *** |
| Deposits | 1.541 | 0.747 | *** | 1.674 | 0.831 | ** | 1.614 | 0.795 | ** | 1.768 | 0.876 | * | 1.433 | 0.701 | ** |
| Equity | 0.699 | 0.595 | * | 0.906 | 0.787 | ** | 0.819 | 0.708 | ** | 0.774 | 0.673 | * | 0.913 | 0.782 | ** |
| Loan growth | 4.389 | 1.816 | *** | 3.414 | 1.441 | ** | 3.903 | 1.638 | ** | 3.621 | 1.526 | ** | 3.861 | 1.607 | ** |
| Ownership | | | | -0.631 | -1.731 | *** | -1.097 | -3.477 | * | | | | | | |
| Crisis | | | | 0.771 | 1.897 | *** | | | | 1.271 | 4.064 | ** | | | |
| Devaluation | | | | 0.349 | 1.047 | ** | | | | | | | 0.806 | 2.715 | *** |
| | | | | | | | | | | | | | | | |
| R-squared | 0.139 | | | 0.188 | | | 0.169 | | | 0.179 | | | 0.157 | | |
| Adj. R² | 0.102 | | | 0.145 | | | 0.13 | | | 0.141 | | | 0.118 | | |
| F-test | 3.712 | | | 4.386 | | | 4.348 | | | 4.669 | | | 4.005 | | |
| Observations | 360 | | | 360 | | | 360 | | | 360 | | | 360 | | |

This table shows the regression coefficients of the Net Interest Margin performance measurement model for the sample of Kazakhstani privately owned banks. Following Dinc (2005), we evaluate private ownership type as 20 % least. Following Cornett at al. (2009), we consider all foreign banks as private. 88 % of the whole industry represent privately owned banks. The explanatory variables are in *Italics* and represent bank specific, macroeconomic and country specific factors. Five types of regression models applied. None – only the explanatory variables with no categorical factors. All – full sample with three categorical year dummies applied. Ownership, Crisis and Devaluation – explanatory variables with private ownership structure, crisis and devaluation dummies separately examined, respectively. Significance levels of the probability values are indicated as the next: ***, **, * significant at 1, 5 and 10 % levels, respectively.

Table 4 shows that privately owned structured banks have serious changes in relation to the most of the measures affecting the industry performance when we examined it through Net Interest Margin. In the full sample, the *Crisis* coefficient has the positive sign indicating positive effect on NIM performance measure. This finding complies with the study of Kohler (2015) who states that during and after crisis period, the state support as a funding for the private banks increases in the emerging market economies. We previously pointed that net interest margin is helpful in identification the spread between interest revenues and costs. The small spread pushes management of the banks make the decision about the funding increase. Hence, we can attribute the positive sign of the *Crisis* to the specifics of the developing economy. Simply stating, *Crisis* increases the possibility that government will devote more funds to the private banks making the position of the Net Interest Margin positive. Therefore, the performance

expressed in the aspect of Net Interest Margin only enhances in the case of the crisis, because the overall market insolvency threatens economy safety. This is reasoned based on the assumption that banks tend to play the major role in the emerging markets. Hence, government will try to keep the market safe and will support the banking industry financially. We as well need to point that the appropriateness level of the predictor variables is lower when applied against NIM performance measure. The overall model significance is as well lower as compare to the performance measure of Return on Assets.

Table 5 presents the regression coefficients of the five subsamples against the dependent variable of Return on Equity. The model is a little more significant than the one with the NIM, however still is weaker than the model with performance measure of the ROA. The regressions with separate examination of predictors of *Ownership*, *Crisis* and *Devaluation* go in line with the findings in similar regressions but against performance measure of ROA. However, we need to point out that the coefficients for these variables are quite high. In all the regressions with Return on Equity as performance measure, we can observe that that the coefficient for *Loan Growth* is high and positive. On the other side, *Credit Risk* has negative and significant impact. We can state that aggressive lending positively affects equity and increases the volume of loans, but decreases the quality and eventually leads to overall low performance. Financial stability represented as the equity is seriously undermined whenever the crisis or devaluation takes place. The significance is high in all the specifications, when regression run with full sample or for each dummy separately.

**Discussion**

Some of the variables included into observation have the values of beta coefficients higher than one. This is because the variables included into the model have high probability of correlation among predictors. We make that assumption that this case is possible following the researchwork of Joreskog (1999), who states that the coefficients can be higher than one when the model have variables that are explaining each other. Therefore, for the sake of research interest we keep to the model and use the suggested Pooled regression methodology suggested by the Haussmann specification test. For further studies of transitional economies, we would be trying to apply the more sophisticated methodology like Generalized Method of Moments, where the dependent variable can be taken in the form of the lag value if necessary. For this particular study, we only can apply the lag variables to the right hand side of the equation as the methodology permits to do it. That helps to diminish the possible endogeneity problem that can arise. This is important, as the predictor variables in our model are quite diverse and therefore can have high probability of correlation.

| Table 5 - Kazakhstani Bank Performance Measure. 2008 - 2017. quarterly based. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dependent variable: the Return on Equity (ROE) | | | | | | | | | | | | | | | |
| Method: Panel least squares. Pooled regression model. | | | | | | | | | | | | | | | |
| | None | | | All | | | Ownership | | | Crisis | | | Devaluation | | |
| | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. | Coeff. | T-stat. | Prob. |
| Credit risk | -27.622 | -0.488 | * | -28.566 | -0.507 | * | -28.111 | -0.498 | * | -26.408 | -0.472 | * | -34.512 | -0.611 | * |
| Debt to Assets | 0.103 | 0.274 | * | 0.106 | 0.284 | * | 0.111 | 0.293 | * | 0.107 | 0.287 | * | 0.101 | 0.269 | * |
| Equity to Assets | 0.168 | 0.273 | * | 0.317 | 0.517 | * | 0.236 | 0.384 | * | 0.3 | 0.492 | * | 0.263 | 0.428 | * |
| Fee | 2.341 | 0.809 | ** | 2.871 | 0.99 | ** | 2.549 | 0.881 | ** | 3.027 | 1.053 | ** | 2.015 | 0.697 | ** |
| GDP | -1.807 | -3.586 | *** | -1.958 | -3.313 | *** | -1.485 | -2.706 | *** | -1.874 | -3.757 | *** | -2.122 | -3.99 | *** |
| Inflation | -0.147 | -0.381 | * | -0.208 | -0.484 | * | -0.259 | -0.663 | * | -0.127 | -0.333 | * | -0.412 | -1.004 | ** |
| Investments | -0.004 | -0.065 | * | -0.009 | -0.152 | * | -0.011 | -0.179 | * | -0.008 | -0.139 | * | -0.008 | -0.131 | * |
| Commission | 0.133 | 3.061 | *** | 0.141 | 3.263 | *** | 0.136 | 3.132 | *** | 0.142 | 3.289 | *** | 0.134 | 3.078 | *** |
| Liquidity risk | 1.453 | 0.028 | * | -2.813 | -0.054 | * | -0.178 | -0.003 | * | -3.951 | -0.076 | * | 3.701 | 0.071 | * |
| Size | -7.74 | -0.305 | * | -7.619 | -0.302 | * | -8.297 | -0.327 | * | -7.942 | -0.316 | * | -6.692 | -0.264 | * |
| Deposits | 1.732 | 0.085 | * | 0.449 | 0.022 | * | 1.423 | 0.07 | * | 0.092 | 0.005 | * | 2.447 | 0.12 | * |
| Equity | 10.679 | 0.917 | ** | 9.768 | 0.843 | ** | 10.172 | 0.875 | ** | 10.143 | 0.881 | ** | 9.269 | 0.797 | ** |
| Loan growth | 34.862 | 1.456 | ** | 40.978 | 1.718 | *** | 36.922 | 1.542 | ** | 40.423 | 1.701 | *** | 38.356 | 1.602 | ** |
| Ownership | | | | 0.048 | 0.013 | * | 4.651 | 1.467 | ** | | | | | | |
| Crisis | | | | -8.357 | -2.042 | *** | | | | -9.186 | -2.933 | *** | | | |
| Devaluation | | | | -1.581 | -0.47 | * | | | | | | | -5.33 | -1.801 | *** |
| | | | | | | | | | | | | | | | |
| R-squared | 0.162 | | | 0.184 | | | 0.168 | | | 0.183 | | | 0.17 | | |
| Adj. R$^2$ | 0.126 | | | 0.14 | | | 0.129 | | | 0.145 | | | 0.132 | | |
| F-test | 4.449 | | | 4.258 | | | апр.32 | | | 4.801 | | | 4.401 | | |
| Observations | 360 | | | 360 | | | 360 | | | 360 | | | 360 | | |

This table shows the regression coefficients of the Return on Equity performance measurement model for the sample of Kazakhstani privately owned banks. Following Dinc (2005), we evaluate private ownership type as 20 % least. Following Cornett at al. (2009), we consider all foreign banks as private. 88 % of the whole industry represent privately owned banks. The explanatory variables are in *Italics* and represent bank specific, macroeconomic and country specific factors. Five types of regression models applied. None – only the explanatory variables with no categorical factors. All – full sample with three categorical year dummies applied. Ownership, Crisis and Devaluation – explanatory variables with private ownership structure, crisis and devaluation dummies separately examined, respectively. Significance levels of the probability values are indicated as the next: \*\*\*, \*\*, \* significant at 1, 5 and 10 % levels, respectively.

### 7. Conclusion

Using the quarterly based data from the 2008 to 2017 years, we examine the effect of composite ownership structure, external global financial shocks and internal macroeconomic changes as devaluation affect the financial stability performance of Kazakhstani bank industry. The financial stability of Kazakhstani market deteriorates as the external environment worsens as both factors of Return on Equity and Assets indicate. On the other side, the Net Interest Margin shows that crisis period only positively stimulates the financial stability of the industry. It is reasoned as the fact that the development of the financial market in Kazakhstan is very low, and the positive effect is only attributed to the fact that in times of the negative economic conditions, banks tend to receive additional funding from the state budgets to diminish the possibility of insolvency of the industry. Hence, the positive moments indicated by the Net Interest Margin performance measure in times of the crisis can not be explained by the good business model, because other two performance variables suggest that the crisis has negative and significant impact on the overall state of the banks in Kazakhstan. As for the ownership structure, Kazakhstan banking industry have almost ninety percent of private banks in the examination period. However, owners of the financial institutions are closely affiliated with governmental executives or previously been on the state service. Therefore, the problem of fiscal costs that arise in times of the crisis, can not be neglected even if the whole ownership of the Kazakhstani banks almost completely in the hands of the private sector.

With respect to the models applied, we can report thatexamining regression model with the private ownership only, excluding the crisis and devaluation shocks positively affects the bank performance. We indicate strong evidence that the bigger the size of the bank the higher is the credit risk possibility, the higher is the volume of loans and the poorer the quality of them, eventually affecting the overall performance level. In the full models, the effect of ownership is weaker. Findings suggest that the macroeconomic shocks seriously affect the financial stability of the banks undermining the effect of ownership. The other observation suggests significant increase of the non-traditional profit generation factors contributing to the performance level in all regression stimulations. This can be attributed to the fact that traditional business models in Kazakhstani banking industry changes and shows clear reliance on the other possible options of profit generation. This indicates a positive signal to the fact that the industry is developing. For the full picture of the industry performance, however, further research of the regulation and supervision of the industry is necessary.

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### «ЧАСТНАЯ» ФОРМА СОБСТВЕННОСТИ КАЗАХСТАНСКОЙ МОДЕЛИ БАНКОВСКОГО БИЗНЕСА. ОЦЕНКА ПРОДУКТИВНОСТИ ИНДУСТРИИ ПОСРЕДСТВОМ ПОКАЗАТЕЛЕЙ ДОХОДНОСТИ

**Аннотация.** Данная статья направлена на изучение влияния частной формы собственности на работу индустрии банков в транзитной экономики Казахстана. В большинстве развивающихся экономик концентрация власти политической и экономической может оказаться в руках единого субъекта. Такого рода концентрация может негативно сказаться на развитии экономики в целом и замедлить трансмиссию финансовой структуры от плановой к рыночным условиям. По этой причине, изучение структуры

собственности в исследовании деятельности банковской доходности имеет важное значение. Модель включает в себя качественные и количественные макроэкономические, специфические для банка и для страны факторы. А также, внутренние и внешние факторы влияния в виде мирового финансового кризиса и девальвации. Для точности результата исследования, в методологии используется три показателя доходности в период 2008 по 2017 года.

**Ключевые слова:** Банковская деятельность, банковская структура собственности, кризис и девальвация.

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## ҚАЗАҚСТАНДЫҚ БАНКТІК БИЗНЕС МЕНШІГІНІН «ЖЕКЕМЕНШІК» ТҮРІ. ИНДУСТРИЯ ОНІМДІЛІГІН КІРІС ФАКТОРЛАРЫ АРҚЫЛЫ БАҒАЛАУ.

**Аннотация.** Бұл мақала, Қазақстандықжекеменшік банк меншік түрінін банк индустриясына асерін багалауга багытталган. Өтпелі мемлекеттердін кобінде, политикалық және экономикалық билік бір тұлганын қолында шогырлануы жиі кездесетін жай. Бұндай жагдай, мемлекеттін өтпеліқаржылық кезенініде, нарықтық экономикага көшуіні кері асерін тигізеді. Осы себебтен, банктік меншік иесін зерттеу, және онын онімділік факторына математикалық асерін тексеру манызды. Бұл мақалада қолданылатын зерттеу үлгісі, макроэкономикалық, мемлекеттік және банкке гана сай сапалы және де мөлшерлік факторларды есепке алады. Өнімділіктін үш түрі 2008 және 2017 жылдар арасында зерттелінеді. Қосалқы түрде, зерттеу үлгісіне, валютанын құнсыздануы және қаржы дагдарысы қосылган.

**Түйін сөздер:** Банкттік кызмет, жекеменшік банк меншігі, каржылык дагдарыс жане валютанын құнсыздануы.

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