

THE ROLE OF KEY PERFORMANCE INDICATORS (KPI) IN BANKING ACTIVITIES

Adel A. Daryakin¹Alexey A. Sklyarov²Konstantin A. Khasanov³

Abstract: The article shows the importance of key performance indicators in banking activities, the factors that determine the key performance indicators, the reasons for choosing a specific key performance indicator and the correct use of key performance indicators. The analysis of key performance indicators used in banking activities was carried out. The general classification of key performance indicators most often used in banking activity is given. Comparative analysis of the listed credit organizations on the main banking key performance indicators were carried out. To assess the effectiveness of credit institutions, economic and mathematical modeling is presented. The resulting factor of the model is the bank multiplier, and the

independent variables are the most frequently used in the banking activity key performance indicators. Based on the economic and mathematical modeling, the forecasted values are computed, calculated as a trend over the last two years for all independent variables and a bank multiplier. The expert commentary is drawn from the prediction measures of the independent variables for the last two years. In addition, the article lists the reasons for the fall in the bank multiplier among the listed credit organizations.

Keywords: credit organization, commercial bank, key performance indicator, KPI, banking activity.

Introduction

1. ¹ Kazan Federal University, Institute of Management, Economics and Finance. *e-mail:* adel_darin@mail.ru. *tel:* +79172318550
2. ² Kazan Federal University, Institute of Management, Economics and Finance. *e-mail:* adel_darin@mail.ru. *tel:* +79172318550
3. ³ Kazan Federal University, Institute of Management, Economics and Finance. *e-mail:* adel_darin@mail.ru. *tel:* +79172318550

All the commercial banks are implementing a system of various indexes called key performance indicators. This is done to measure the growth rate of the credit organization, identify possible deviations from the plan, reduce costs and assess priority areas of activity.

The system of key performance indicators is usually represented by measurable values. They provide an opportunity to assess the effectiveness of individual functions and management processes of a commercial bank. In practical industrial applications, the key performance indicator related prediction and diagnosis are quite important for the product quality and economic benefits [1].

In the domestic literature, special attention is paid to the indicators by which employers assess the performance of their employees. In the foreign literature, attention is paid to indicators assessing the effectiveness in achieving key business goals.

A.K. Klochkov studied the key performance indicators in detail [2].

N.A. Turkulets supplemented these key performance indicators by dividing them into three groups of indexes related to economic factors,

characteristics of employees and the characteristics of the work performed [3].

There were also researchers who paid special attention to quantitative indicators evaluating effectiveness in achieving key business goals. They were I.B. Lazovitsky and M.M. Panov.

I.B. Lazovitsky believed that the key performance indicators are a quantifiable measurable indicators of the actual results. M.M [4]. Panov believed that key performance indicators are the performance indicators of a single unit that help the whole organization achieve strategic and tactical goals [5].

F. John Reh and S. Miller, representatives of foreign literature, studied in detail the key performance indicators.

F. John Reh believed that key performance indicators are indicators directly helping managers and employees to assess the effectiveness of various important functions and processes [6]. S. Miller developed his idea. He organized and classified these indicators into groups according to the indicators: risks, interest margin, assets, value, investment and income [7].

1. Methods

All commercial banks use a system of key performance indicators in order to evaluate its success in achieving its goals. For this, they need to find or create a special tool to be able to monitor the business process and monitor changes in key performance indicators at any given time. Changing and controlling the effectiveness of the existing business process of a commercial bank is always a priority, but if we focus on unnecessary key

performance indicators, then in the future it can cause significant harm to the credit organization.

It is necessary to determine the features of key performance indicators in order to avoid unnecessary key performance indicators for this department of the commercial bank.

There are six factors that separate effective key performance indicators from unnecessary ones. [8] (Fig.1):

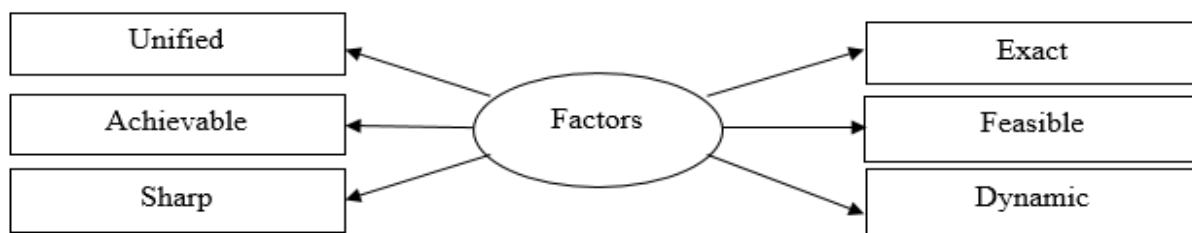


Fig. 1. Factors determining key performance indicators

1. Unified - key performance indicators should coincide with the strategic goals and objectives of credit organization; Key performance indicators can primarily be aimed at the success of the banking business, and ultimately to the satisfaction of the client base or vice versa. If monitoring shows that KPI targets are not reached, then it is necessary to identify the factors which strongly influence the KPI and cause KPI

target violations most often [9]. In other words, KPI can be directed "from up to down" or "from the bottom up". An example of key performance indicators "from up to down" may be the susceptibility of the market to a given product or service. In other words, this is how the market reacts to one or another banking product. Among the "from the bottom up" indicators the decisive role is played by the level of satisfaction of

current client base of the bank, attracting new customers and loyalty to the bank's brand.

2. Achievable - key performance indicators should be measurable and easy to obtain. If key performance indicators are not achievable, there is no point in using them [10]. They can not be measured or their use is too expensive. Examples of such key performance indicators are «revenue» and «net profit».

3. Sharp - key performance indicators should coincide with activities of the department of the credit organization in which they function. For an accountant, an example of such a key performance indicator can be the timely making payment transactions [11];

4. Exact - the data recognized in key performance indicators should be

accurate and reliable. Examples of such key performance indicators can be various commercial indicators – «revenue» and «net profit»;

5. Feasible - key performance indicators should provide insight into how the department works and what needs to be done to obtain these indicators. Examples of feasible key indicators can be «private deposits» and «financial investments» [12];

6. Dynamic - key performance indicators must be in constant motion. In other words, they must grow in accordance with market conditions. Examples of such key indicators can be «net assets».

Based on the analysis of the most frequently used key performance indicators, we give a general classification of key performance indicators [13] (Fig. 2):

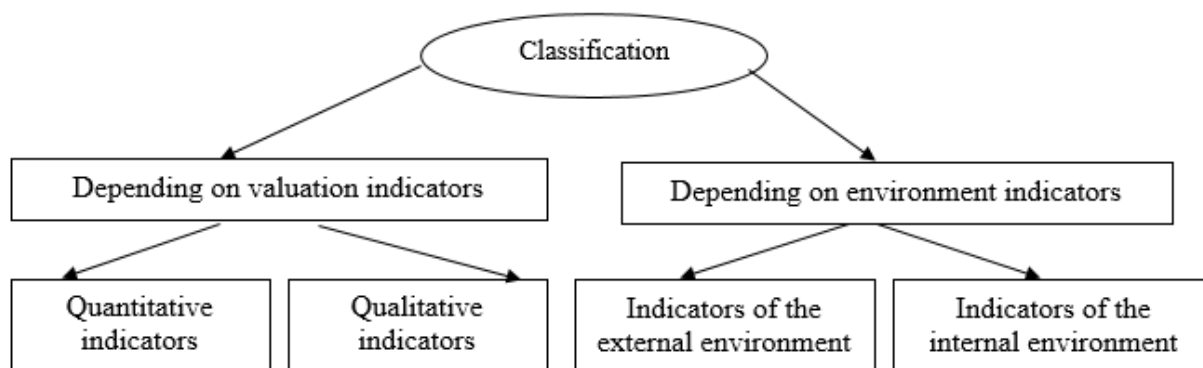


Fig. 2. General classification of key performance indicators

Classification of key performance indicators can be divided into two main groups depending on the valuation indicators and on the environment indicators. Depending on the environment, the indicators can be external (organization can not have a significant impact) and internal (organization can have a significant impact). Depending on valuation

indicators, the indicators are divided into quantitative key indicators (indicators showing effectiveness of activity of the credit organization) and qualitative indicators (indicators showing the performance of employees). The following table (Table 1) presents the most significant indicators that can be present in any credit organization.

Table 1

Classification of key performance indicators of commercial banks

Classification of KPI			
Depending on environment indicators		Depending on valuation indicators	
Internal indicators	External indicators	Qualitative indicators	Quantitative indicators
1. Credit portfolio	1. Rate of inflation	1. Work experience of employee	1. Financial investments
2. Private deposits	2. Rate of unemployment	2. Mechanized work	2. Net profit
3. Net assets	3. GDP growth rate	3. Demand and supply for banking services	3. Capital ratio

2. Results

To begin with, let us consider the external indicators affecting the

activities of credit organizations of the Russian Federation (Table 2).

Table 2

External Indicators

Date	Rate of inflation, %	Rate of unemployment, %	GDP growth rate, %
01.01.2012	6,58	5,50	3,40
01.01.2013	6,45	5,50	1,30
01.01.2014	11,36	5,20	0,60
01.01.2015	12,90	5,60	-3,90
01.01.2016	5,40	5,40	-0,20

Based on these indicators it is clear that there is a significant reduction in the rate of inflation in comparison with 2014 and 2015. This suggests that there will not be a significant increase in prices. This will favorably affect interest rates on loans. The unemployment rate remained virtually unchanged for five years and fell by 0.1%. This indicates an increase in potential bank customers. However, due to the unstable economic situation in Russia, the GDP growth rate also declined. However, this growth was not so significant as to have a significant impact on banking activities.

Next, we consider those indicators that can be calculated by public reporting [14]. Then we will use them to compare the key performance indicators of the three largest credit organizations operating in the Russian Federation over the past five years.

During the period under review, PAO «Gazprombank» (Fig.3) was the most effective. He increased the credit portfolio and private deposits more than 2.5 times. Net assets more than doubled, investments in securities increased by more than 12%, which ultimately increased net profit (Fig. 4) by almost 3 times.

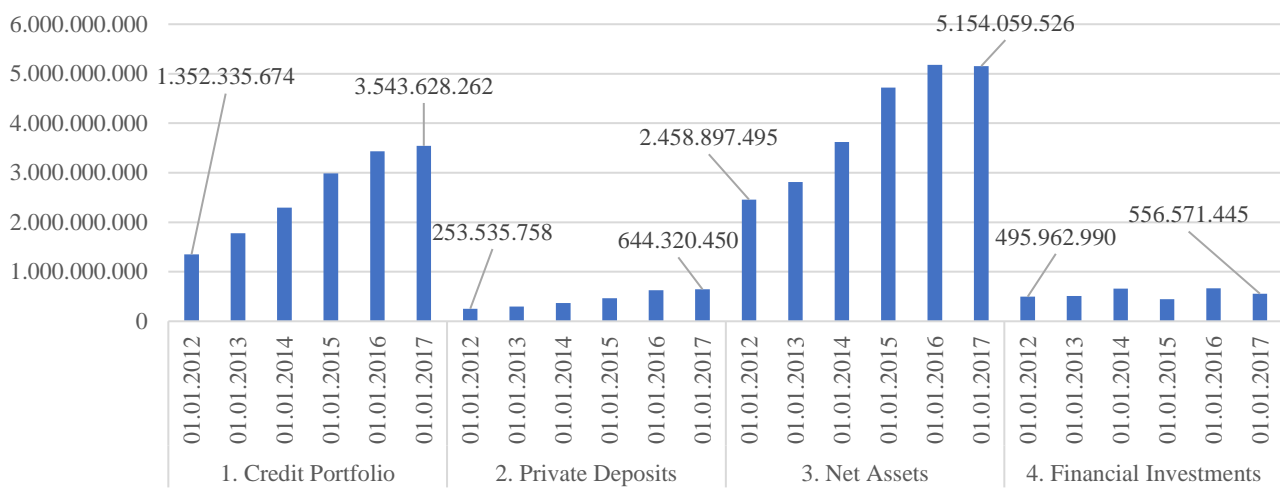


Fig. 3. Activities of PAO «Gazprombank», thousand rubles [15]

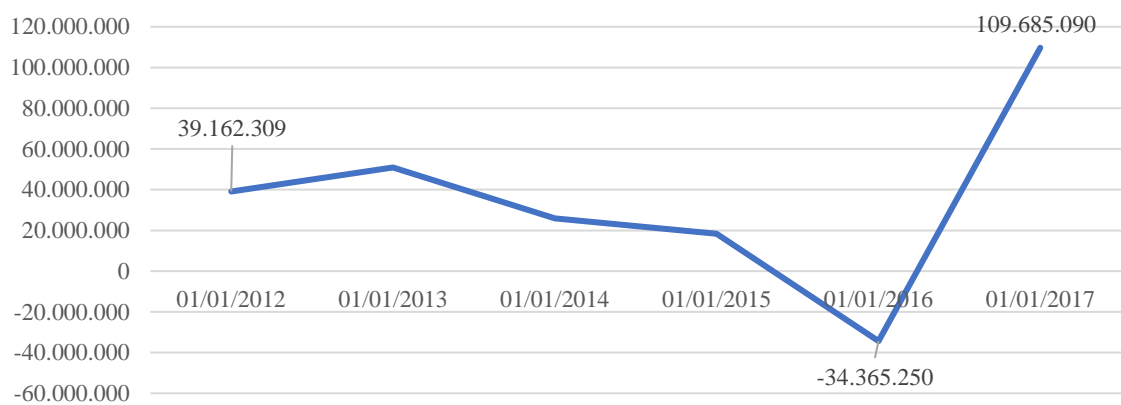


Fig. 4. Net profit of PAO «Gazprombank», thousand rubles [15]

Very good and stable results were shown by other credit organizations. PAO «Sberbank Rossii» increased the credit portfolio by almost 18 times (Fig.5), private deposits and net

assets more than 2 times, financial investments by almost 40%. This affected the increase in net final profit by more than 60%.

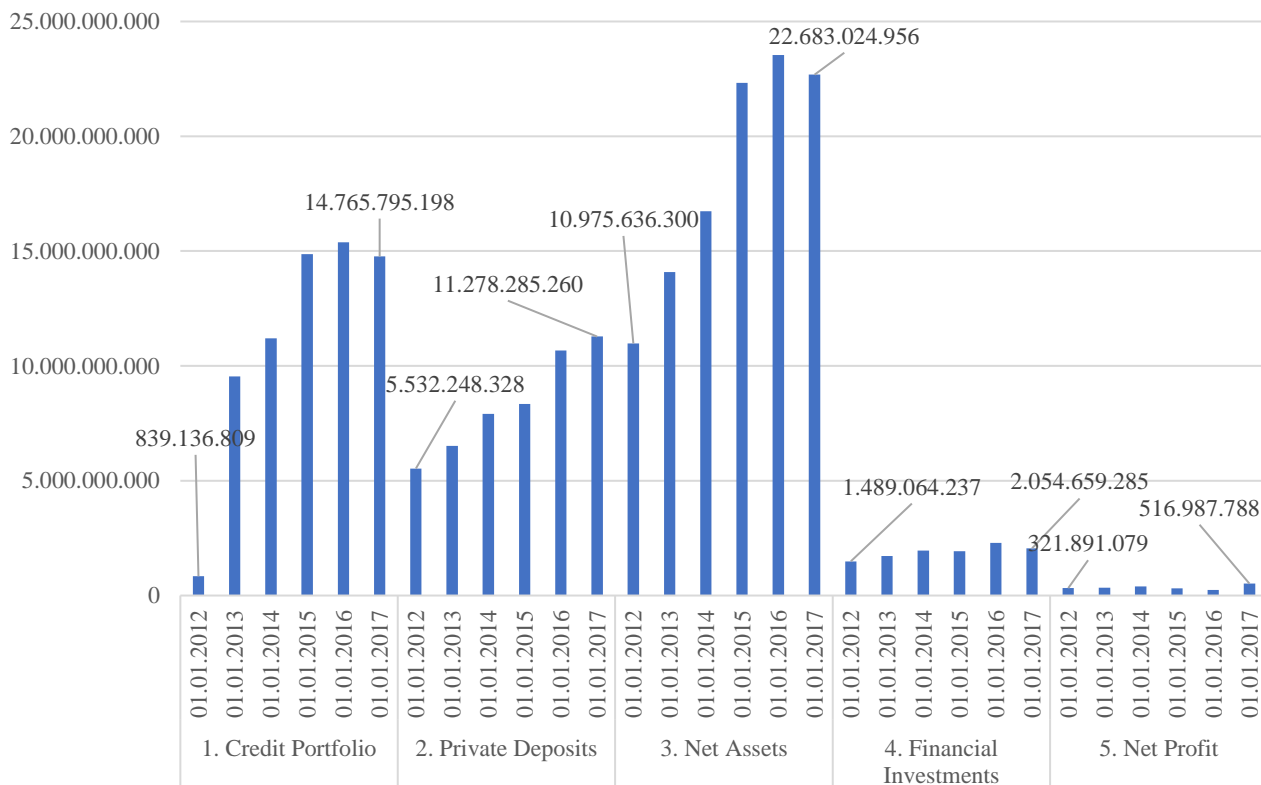


Fig. 5. Activities of PAO «Sberbank Rossii», thousand rubles [15]

During the period under review, Raiffeisenbank (Fig. 6) increased its credit portfolio and net assets by more than 30%, private deposits by more than

70%, financial investments increased by 13%, which ultimately had a positive effect on Net profit. This indicator has increased by almost 60%.

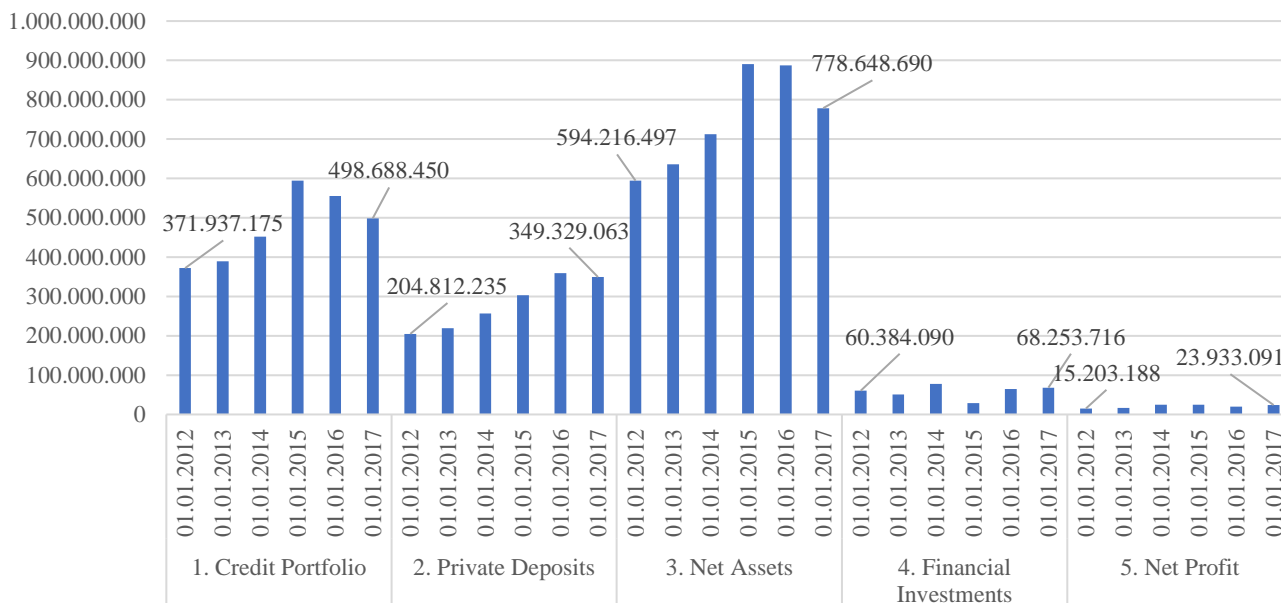


Fig. 6. Activities of PAO «Raiffeisenbank», thousand rubles [15]

In order to assess the effectiveness of these credit institutions, it is necessary to econometric modeling of these indicators. The resulting factor (Y) will be a bank multiplier, since it will allow us to estimate the ratio of net assets to capital.

Consider how the following independent factors affect the bank multiplier (Y):

- X₁ - RTS index;
- X₂ - index S&P 500;
- X₃ - Brent oil;
- X₄ - value of equity stocks, RUB / EUR;
- X₅ - financial investments, thousand rubles;
- X₆ - private deposits, thousand rubles;
- X₇ - quick liquidity ratio (H2), %;

- X₈ - return on assets; %;
- X₉ - current liquidity ratio (H3), %;
- X₁₀ - inflation, %;
- X₁₁ - capital adequacy ratio (N1), %;
- X₁₂ - credit portfolio, thousand rubles.

We perform a correlation-regression analysis of these variables. On the basis of the correlation-regression analysis, the following models for finding a bank multiplier from credit organization were obtained:

- PAO «Sberbank Rossii»: $Y = 14,4933 - 0,0013x_9 + 0,4314x_{10} - 0,5033x_{11}$
- PAO «Gazprombank»: $Y = 15,4324 - 4,0394x_5 - 0,3572x_{11}$
- PAO «Raiffeisenbank»: $Y = 2,6234 - 1,5873x_5 + 9,3473x_{12}$

Calculation of the values of the bank multiplier for the following models generates expert opinion, calculated from the indices of the forecast of the necessary independent variables for the last two years. Next, we need to calculate the indicators of the forecast values

calculated as a trend over the last 24 months for all independent variables, as well as the bank multiplier. Then we compare the indicators of expert opinion with the indicators of forecast values (Fig. 7):

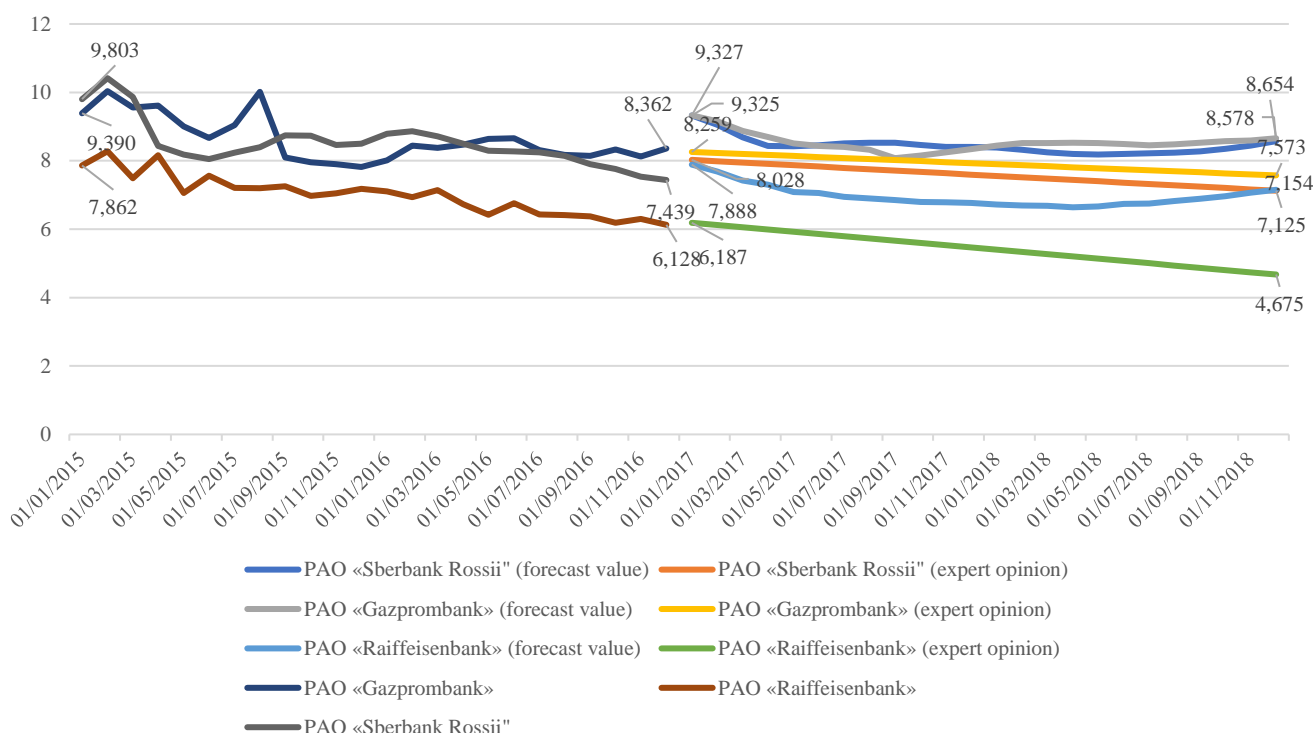


Fig. 7. Comparison of the forecast values of bank multiplier with expert opinion

The most significant drop in the value of the bank multiplier over the period under review (01.01.2015-01.12.2018) is observed at PAO «Raiffeisenbank» - 3.187 points, the least significant drop in the value is observed at PAO «Gazprombank» - 2.23 points, calculated by the model.

However, a slightly different situation arises with the forecast calculation, in it the strongest drop in the bank multiplier is observed at PAO «Gazprombank»- 1.149 points, while the lowest fall in PAO «Raiffeisenbank»- 0.708 points.

Next, consider trends in expert opinion and projected values. According

to the expert opinion, every month there will be a constant decrease in the bank multiplier for all credit organization under consideration.

3. Conclusion

As the current practice shows, the correct use of the system of key performance indicators gives the commercial bank a huge number of advantages. Among them:

- an assessment of the state of the bank and the maintenance of its financial stability;
 - sharing responsibilities among employees in order to focus on the organization's top priorities;
 - identification of strengths and weaknesses of the bank;
 - more rapid response to various problems through a clear systematic forecasting and setting of various targets.
- Therefore, all credit institutions need a well-established mechanism for a system of key performance indicators. This will allow them to set priorities and divide them between employees across the vertical management - from top managers to ordinary employees. Another plus is the ability to timely detect and fix problem areas in the bank's work.

On the basis of the analysis, we can say that: in the credit organizations under consideration, there is a mechanism for a system of key performance indicators that helps credit organizations to respond to problems and correct them in a timely manner. This is particularly noticeable in terms of net profit for January 1, 2016 from PAO «Gazprombank».

The fall in the bank multiplier among the listed credit organizations tells us that in the near future there will be a strong increase in bank capital compared to its net assets. This situation occurs in connection with the unstable economic situation in the Russian Federation and a number of bank license revisions. Due to this, the Central Bank of the Russian Federation tightens standards and exercises more detailed control over compliance with mandatory requirements. This, in turn, leads to the fact that credit organizations are forced to increase capital more than net assets.

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