Venera Vagizova (Russia), Jana Klaas (Russia)

Formation of sustainable development strategy of credit organizations based on balanced scorecard

Abstract

This article covers the problem of forming sustainable development strategy of credit organization. The authors develop the model of sustainable development strategy for solving this problem. The idea of the model is to determine position of bank and formation of the strategy which depends on balanced scorecard components (finance, clients, staff, internal business processes). Advantage of this model consists of possibility to detect a direction of credit organization development for achieving the stable state and also competitive position.

Keywords: sustainable development, strategy, balanced scorecard, simulation model, bank, finance, clients, staff, business processes, key performance indicators.
JEL Classification: G21.

Introduction

With the globalization of the world economy growing role of its financial component, reflected in a significant increase in scales, the strengthening of the unity and the role of the global financial markets can clearly be seen. The growth of global financial assets and the flow of foreign investments are one of the brightest examples of financial globalization. At the present stage of development in the global financial markets a high level of instability that is associated with both economic and political risks remains. Against the backdrop of the global economic slowdown the authorities and leading central banks take action to support economic growth and the fight against the debt crisis, international organizations working on measures to strengthen the financial system. The Russian economy is strong enough to expose to the impact of slowing global economic growth, worsening debt crisis and the increasing volatility in global financial markets. Because of the specific structure of the Russian economy, and a large share of oil and gas revenues in total export earnings, gap in energy prices, the outflow of capital on the presence of a high proportion of non-residents in the stock market and, as a consequence, the weakening of the payments balance are the most significant factors in the deterioration of the situation in the Russian financial sector. However, the implementation of large-scale external shock such events in 2008, is unlikely in view of the fact that the major central banks continue to boost the economy, regulators and supervisors are better informed about the links between financial markets participants. But in case of an adverse events (e.g. a sharp increase in the debt crisis), the Russian financial system would face with a number of adverse effects in the short and medium terms. First and foremost, these consequences would concern the Russian banking system. Commercial banks play an important role in the financial system and the economy. As a key component of the financial system, banks allocate funds from savers to borrowers in an efficient manner. They provide specialized financial services, which reduce the cost of obtaining information about both savings and borrowing opportunities. These financial services help to make the overall economy more efficient. In this regard, the financial sustainability of the banks in relation to external shocks and the possible upcoming crises is rather important. That is why every bank must have its own sustainable development strategy, which helps banks to be stable during long period of time.

1. Literature review

American scientists, Harvard Professors R. Kaplan and David Norton in 1990 examined the measurement systems of large companies' economic activities. The results of research led to formation of the balanced scorecard concept based on cause and effect relationships between strategic objectives, reflecting those parameters and factors of receiving planned results. The concept consists of four components − financial, customer, internal business processes, training and development of personnel, presented in Figure 1 [3].

Strategy of the balanced scorecard is not a process of strategy development; it is a process of implementation of strategy, suggesting that the organization has already clearly defined strategy [7].

Correctly constructed balanced scorecard allows the organization [3]:

- ♦ to concentrate all the resources (financial, personnel, technological, information) for realization of strategy and achieving goals;
- ♦ to provide communication between strategic objectives and daily work of all structures of the organization;
- ♦ to increase management and efficiency of organization activity and also to reduce risks.
- ♦ stages of balanced scorecard are reflected in Figure 2.

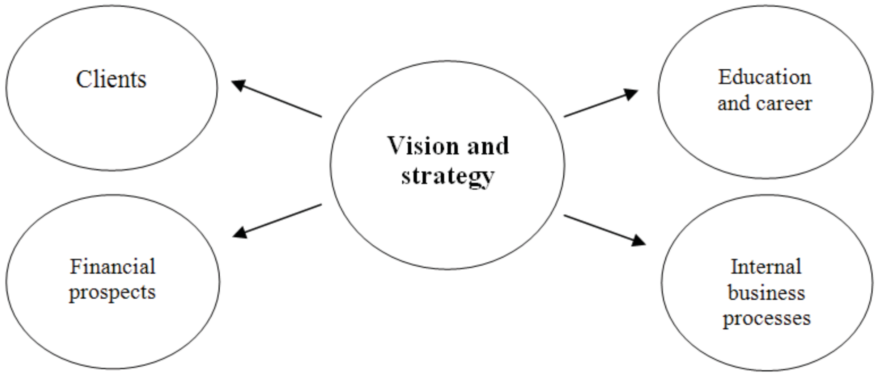

Fig. 1. Balanced scorecard [3]

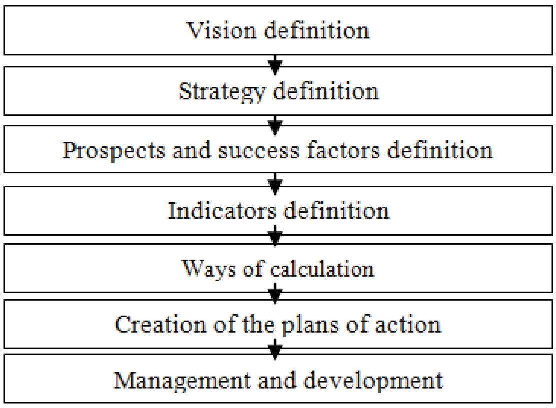

Fig. 2. Main stages of balanced scorecard [3]

2. Model of formation of sustainable development strategy of the bank

Strategy of sustainable development is a set of measures aimed at sustainable development of business and achievement of the most stable position in all respects in the market of banking services.

On the basis of the balanced scorecard the model of formation of sustainable development strategy of the bank, the essence of which is to determine the stable position of the bank and to form strategy, according to the four components of the balanced scorecard (finance, clients, business processes, staff) was developed. In compliance with the established model these components are parts of sustainable development strategy of the bank, which are reflected in Figure 3.

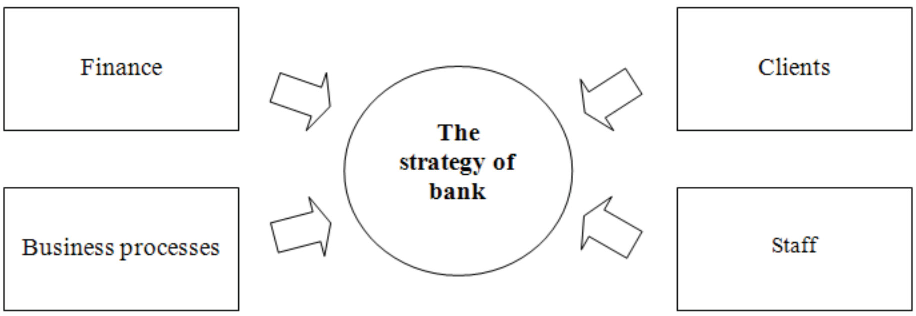

Fig. 3. Components of sustainable development strategy of the bank

Let's describe each component in detail.

2.1. Staff. The level of staff is the key for creation an effective strategy. So the basic logic of the balanced scorecard is the following: if you have the right staff doing the right things (internal processes), the clients will be satisfied and the company will achieve the strategic financial objectives (finance) [3].

2.2. Business processes. The purpose of this component is to provide the maximum combination of owners' interests (financial goals) and clients (value for clients). Differently, the business processes in the bank must be arranged in such a way: to ensure maximum value for clients with minimal expenses. Fine-tuning of the business processes provides the optimum level of differentiation of products and services for a specific market segments [3].

2.3. Client. Successful realization of strategy and achievement of financial results is defined by compliance of offered products and services to requirements of target segments. During the formation of the bank strategy attention must be concentrated on creating value for clients. The objective of this component is to provide an individual approach to each client in the mass markets [6].

2.4. Finance. No matter how we have proved importance of the market orientation of bank and excellence of business processes, the owners will primarily be interested in performance of financial return of investments. However, bank will not be able to show significant financial returns without the formation of effective business processes [6].

On the contrary to the balanced scorecard, the objective of this model is formation of sustainable development strategy of the bank for the future based on the current state of each component (finance, staff, clients, business processes).

The model of formation of sustainable development strategy consists of four stages presented in Figure 4.

1. Calculation and scoring the key performance indicators of each of four components
2. Calculation the weighted average value of the components
3. Definition of stable position of the bank
4. Formation of sustainable development strategy of the bank

Fig. 4. The stages of model of formation of sustainable development strategy of the bank

Let's consider each of the stages.

At the first stage 2 calculations of key performance indicators for every component are carried out (finance, clients, business processes, staff):

- according figures of analyzed bank for 2 reporting dates;
- according figures of competitors.

The most peculiar for bank key performance indicators are those shown in Table 1. The indexes for calculation indicators of capital adequacy, asset quality, liabilities quality, liquidity and profitability are presented in Table 2. Indicators and standards used to calculate the indexes of capital adequacy, asset quality, liabilities quality, liquidity and profitability are shown in Table 3.

Table 1. Key performance indicators of the bank for 4 components

Components	Key performance indicators
Finance	Capital adequacy indicator
	Assets quality indicator
	Liabilities quality indicator
	Liquidity indicator
	Profitability indicator
Clients	The share of banking sector assets
	Profitability of the loan portfolio
	The cost of credit products
Business processes	The share of arrears
	Coefficient of concentration of fines in bank expenses
	Coefficient of concentration of judicial and arbitration expenses in bank expenses
Staff	The share of personnel expenses in total expenses
	The share of training expenses in total expenses
	Staff costs per employee

Table 2. Indexes for calculation indicators estimating finance of the bank

Indicators	Designation	Indexes for calculation the indicators
Capital adequacy indicator	CAI	$CAI = \sqrt[2]{Car \times Cca}$
Liquidity indicator	LI	$LI = \sqrt[3]{Sil \times Scl \times Cql}$
Liabilities quality indicator	LQI	$LQI = \sqrt[3]{Ccb \times Csrb \times Cdil^{-1}}$
Assets quality indicator	AQI	$AQI = \sqrt[3]{Cql \times Cap^{-1} \times Sa^{-1}}$
Profitability indicator	PI	$PI = \sqrt[2]{Cpa \times Cpc}$

After calculation of the key performance indicators presented in Table 1, experts carry out numerical score (4 − well, 3 − fair, 2 − doubtfully, 1 − unsatisfactory) for each indicator. The need of scoring is explained by a different dimension of the calculation results.

At the following stage it is required to make weighing of values of the indicators entering into each component (finance, clients, business processes, staff) for definition of total result (weighted average value). This calculation is based on the results of scoring and weight coefficients of each indicator which are presented in Table 4. The weight coefficients are determined by a motivated professional judgment. Weighted average value determination is carried out on the following formula:

$$I_i = \frac{\sum_{i=1}^{n} a_i \times x_i}{\sum_{i=1}^{n} a}, \qquad (1)$$

where x_i is the scoring of the ith indicator; a is the weight coefficient.

According to the results of the two previous stages obtained integral indicators of the following components: finance, business processes, staff, clients for the analyzed bank over 2 reporting dates and competitors.

Table 3. Indicators and standards for calculation indicators estimating finance of the bank

Data	The coefficients, standards	Designation	Procedure of calculating of coefficients, standards
Capital adequacy	Capital adequacy ratio	Car	(Equity / Assets risk-weighted) × 100%
	Core capital adequacy ratio	Cca	(Core capital / Assets risk-weighted) × 100%
Liquidity	Standard of instant liquidity	Sil	(Highly liquid assets / Demand on liabilities) × 100%
	Standard of current liquidity	Scl	(Liquid assets / Demand on liabilities and up to 30 days liabilities) ×100%
	Coefficient of general liquidity	Cgl	(Liquid assets / (Total assets – Required reserves)) × 100%
Liabilities quality	Coefficient of client base	Ccb	((Deposits citizens + Fund of legal entities) / Total raised funds) × 100%
	Coefficient of stability of resource base	Csrb	((Total liabilities – Demand on liabilities) / Total liabilities) × 100%
	Coefficient of dependency of interbank loans	Cdil	(Interbank loans / Total raised funds) × 100%
Assets quality	Coefficient of aggression of credit policy	Cap	(Loan debt / Total raised funds) × 100%
	Coefficient of loan debt quality	Cql	((Loan debt provision for possible loan losses) / Loan debt) × 100%
	The share of arrears	Sa	(Arrears / Loan debts) × 100%
Profitability	Coefficient of assets profitability	Cpa	(Profit / Total assets) × 100%
	Coefficient of capital profitability	Cpc	(Profit / Equity) × 100%

Table 4. The weight coefficients of indicators of bank

Components	Key performance indicators	Weight coefficients
Finance	Capital adequacy indicator	0,20
	Assets quality indicator	0,20
	Liabilities quality indicator	0,20
	Liquidity indicator	0,20
	Profitability indicator	0,20
Clients	The share of banking sector assets	0,15
	Profitability of the loan portfolio	0,35
	The cost of credit products	0,50
Business processes	The share of arrears	0,45
	Coefficient of concentration of fines in bank expenses	0,25
	Coefficient of concentration of judicial and arbitration expenses in bank expenses	0,30
Staff	The share of personnel expenses in total expenses	0,35
	The share of training expenses in total expenses	0,20
	Staff costs per employee	0,45

At the third stage to define a stability position of bank in comparison with competitors, and as a result, to attribute it to one of two zones (1 – "better" than competitors, 2 – "worse" than competitors), the following algorithm presented in Figure 5 (see Appendix) was developed. According to this algorithm bank applies to particular area by successive comparisons of components of bank with average value of competitors. A similar algorithm reflected in Figure 6 (see Appendix), is used to compare components of the analyzed bank over two reporting periods, according to which the bank belongs to one of the two zones (1 – components for the current date are better than components for the previous data, 2 – components for the current date are worse than components for the previous data).

As a result of application of these algorithms the stability position of bank is defined by reference bank to one of 4 groups that are reflected in Table 5 depending on zone to which the bank get.

Table 5. Determination of the stable position of the bank

Types of comparisons	Comparison of components of the bank for 2 reporting dates	
Comparison of competitors	Components for the current date are better than components for the previous data (zone I)	Components for the current date are worse than components for the previous data (zone II)
"Better" than the competitors (zone I)	I ("banks with balanced")	III ("rather unstable banks")
"Worse" than the competitors (zone II)	II ("stable banks")	IV ("unstable banks")

On the basis of algorithms given in Figures 5 and 6, each of 4 groups of stability position can be characterized by a various set of four component ratios (finance, clients, business processes, staff). We select the most common tactical objectives for all components, which can be applied for each stable position.

Term goals for the component "finance":

- improve cost recovery;
- increase the profits;
- reduce the risks;
- allocate resources in the most profitable areas;
- assets growth;
- increase the brand value of bank;
- raised funds' growth.

Term goals for the component "clients":

- specific proposals for the development of real economy: creation special offers useful for different groups of clients, evaluation of the economic aspect of offers, appeal proposals to those clients, whose' offer is more profitable;
- increase the number of strategic clients;
- increase the efficiency of work with real sector of economy;
- formation the correct image of the bank in the opinion of potential clients.

Term goals for the component "business processes":

- development of new business processes;
- provision of services by organized, knowledgeable, competent and active employees;
- risk management system improvement;
- corporate governance improvement;
- automation key business processes.

Term goals for the component "staff":

- using of strategic information resources;
- training of staff;
- increasing responsibility of employees and communication of results of work with remuneration.

Based on Table 5, we will determine the strategy of banks for each of the groups of stability position:

1. "Banks with balanced stability": according to analysis of the bank for the current period there is an improvement compared to competitors, as well as in comparison with the figures for the previous reporting period.
2. "Stable banks": components of considered bank for the current period are worse, than competitors components, but it is better than components for previous reporting period.
3. "Rather unstable banks": components of bank for the current period are worse in comparison with components for the previous period, but in comparison with competitors components improve.
4. "Unstable banks": deterioration of components in comparison with components for the previous reporting period, as well as, with competitors components that leads to loss of a stable position of bank.

Depending on the group to which the bank refers, it can use the following types of strategy, reflected in Figure 7.

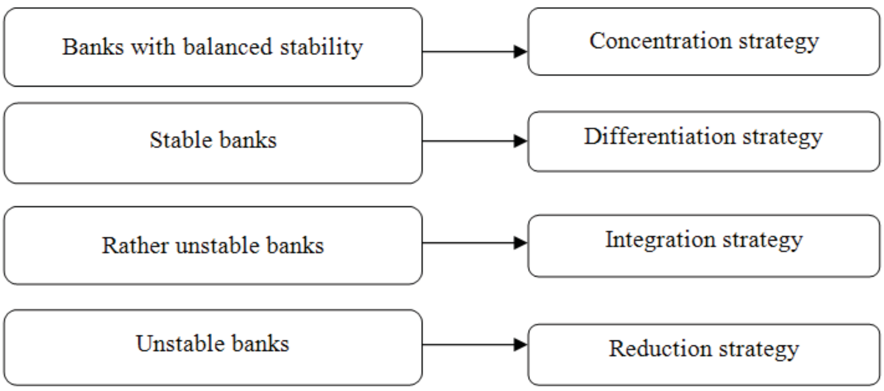

Fig. 7. Strategy of sustainable development of bank

Let's describe each of the strategies.

Concentration strategy. Banks belonging to the group of stable banks have the best opportunities to maintain its stability, in view of the fact that their policy contributed to the improvement of components for the current date and compared to competitors. The costs of preservation of stability of the banks are minimal, because there are no significant deficiencies in their performance.

Specific types of this strategy are:

- strategy of strengthening the market position, this strategy does not require significant changes in the current strategy of bank, and assumes strengthening of the current situation through intensive promotion of available banking products and services in the functioning markets;
- market development strategy assumes searching new markets for existing banking products and services [3];
- strategy of product development is a strategy that intends to offer new banking products in established markets.

Differentiation strategy. A bank with a balanced stability is characterized by a relative loss of stability compared to competitors. However, there was improvement of components of bank for the current reporting period compared to the components for the previous reporting period, which has suggested a high probability of improving the stability of the bank in the future. In this regard, the bank is necessary to focus on the analysis and identification of weaknesses and opportunities to improve the assets and liabilities quality, profitability, accumulation of the capital base [3].

The following types of differentiation strategies allocate:

- centered differentiation strategy, which involves completion of the product line by the products available for competitors;
- differentiation horizontal strategy involves completion of product line by new banking products that are associated with existing products and can generate interest among customers. The new product should be directed to the consumer of main product. An important condition for the implementation of this strategy is a preliminary assessment of competence of the bank [6];
- conglomerate differentiation strategy consists that the bank expanded by new products, which are implemented in the new markets. This is one of the most difficult for implementation strategies, its successful implementation depends on many factors, including the competence of staff and especially managers [6].

Integration strategy. Bank belonging to the group "rather unstable banks" on all components ahead of competitors, but at the same time has significant problems that lead to deterioration of components compared to the previous reporting period. Bank needs to apply measures to increase stability directed on overcoming of shortcomings. In addition to improve their sustainability in the short term bank can use the strategy of integration, assuming expansion of the bank by addition of new structures. Bank can resort to this strategy, if it cannot implement the concentration strategy and at the same time integration does not contradict its long-term goals [6].

Reduction strategy. In the group of "unsustainable banks" are banks, which have lost stability, due to serious shortcomings in their activity.

Specific types of this strategy are [3]:

- cessation strategy, which shows that bank closes unprofitable, unpromising unit. The funds received from the sale of these units may be directed to development of alternative activities;
- reduction of costs strategy is based on activities related to reducing costs. This strategy has certain features. It is focused on the elimination of small sources of costs, and also its implementation has character of temporary or short-term measures. Implementation of this strategy is associated with a reduction in administrative costs, hiring reduction and staff dismissal;
- elimination strategy is a radical case of reduction strategy and is used when the bank cannot lead further business.

3. Approbation

We had approbated the developed model by the example of banks to form a sustainable development strategy of Bank 1 having the following competitors: Bank 2, Bank 3, Bank 4 and Bank 5.

According to the first stage of model we will calculate key performance indicators for every component (finance, clients, business processes, staff) according figures of Bank 1 and Bank 2, Bank 3, Bank 4 and Bank 5. Results of the carried out calculation of key performance indicators are presented in Table 6. Basic data for calculation key performance indicators are reflected in Table 7.

Table 6. Key performance indicators of the banks

Components	Key performance indicators	Bank 1 (2010 year)	Bank 1 (2009 year)	Bank 2	Bank 3	Bank 4	Bank 5
Finance	Capital adequacy indicator (%)	14,210	19,2800	24,900	25,730	22,050	12,100
	Assets quality indicator (%)	353,570	307,2800	248,450	414,420	277,380	428,890
	Liabilities quality indicator (%)	145,350	123,6000	85,920	105,880	162,290	277,330
	Liquidity indicator (%)	34,560	47,6500	29,550	58,230	47,850	29,820
	Profitability indicator (%)	0,420	0,8400	0,920	1,000	0,430	0,970
Clients	The share of banking sector assets (%)	3,530	2,5800	2,510	1,980	2,590	2,820
	Profitability of the loan portfolio (%)	12,520	16,4500	14,260	12,750	14,740	14,840
	The cost of credit products (%)	13,000	15,0000	17,000	16,000	15,500	16,500
Business processes	The share of arrears (%)	2,540	3,4300	5,320	1,270	4,780	1,730
	Coefficient of concentration of fines in bank expenses (%)	0,000	0,0002	0,000	0,000	0,003	0,001
	Coefficient of concentration of judicial and arbitration expenses in bank expenses (%)	0,003	0,0009	0,001	0,000	0,020	0,010
Staff	The share of personnel expenses in total expenses (%)	4,130	2,9600	1,820	7,570	4,950	3,040
	The share of training expenses in total expenses (%)	0,030	0,0200	0,003	0,004	0,040	0,010
	Staff costs per employee (thousands rubles)	501,840	495,3000	353,440	365,270	471,360	385,830

Table 7. Basic data for calculation of key performance indicators of the banks in thousands rubles

Data	Bank 1 (2009 year)	Bank 1 (2010 year)	Bank 2	Bank 3	Bank 4	Bank 5
Equity	2 353 189	2 360 215	2 734 569	2 157 139	2 280 491	1 489 273
Core capital	1 451 501	1 495 716	2 542 362	2 068 107	2 250 355	1 246 274
Interest income	1 431 286	1 362 745	1 280 516	869 332	1 267 396	1 125 222
Total expenses	5 762 521	4 309 121	6 707 718	1 751 740	3 618 497	6 719 886
On demand liabilities	2 128 334	3 932 412	2 098 238	2 223 291	2 468 831	2 340 917
Liquid assets	2 455 793	2 732 366	1 653 899	3 199 525	2 319 175	390 655
Fines and penalties	13	0	0	0	114	92
Assets	11 124 836	14 815 720	10 828 507	8 556 156	11 204 308	12 176 609
Required reserves	53 374	86 656	47 914	25 914	136 154	70 463
Deposits of citizens	2 803 659	5 023 901	3 889 752	2 178 359	3 675 073	5 728 137
Fund of legal entities	2 602 300	4 153 930	4 266 521	1 591 463	3 530 924	4 155 364
The raised funds	8 779 185	12 362 416	8 231 545	6 341 652	8 922 867	10 685 906
Interbank loans	2 168 664	2 037 911	0	2 062 331	1 219 305	361 863
Indebtedness	8 698 573	10 881 468	8 981 959	6 819 766	8 600 690	7 583 404
Provision for losses	111 446	118 814	1 099 605	214 829	141 390	265 658
Arrears	298 708	276 633	478 223	86 379	411 338	130 864
Profit	145 985	95 211	50 064	42 991	21 549	41 510
Legal and arbitration costs	49	131	44	0	868	956
Personnel costs	170 382	178 154	121 937	132 594	179 115	204 455
Expenses on personnel training	990	1 487	218	67	1 307	532
The average number of staff (people)	344	355	345	363	380	530

At the same stage, the scoring of key performance indicators, which is presented in Table 8, is made. Thus, as the results of the first stage we received a numerical score of key performance indicators of banks.

According to the second stage of model we will calculate the weighted average value for every component (finance, clients, business processes, staff) for all considered banks. The result of calculation is reflected in Table 9.

Table 8. Scoring of the key performance indicators of the banks

Components	Key performance indicators	Bank 1 (2010 year)	Bank 1 (2009 year)	Bank 2	Bank 3	Bank 4	Bank 5
Finance	Capital adequacy indicator	2	3	4	4	3	2
	Assets quality indicator	4	3	3	4	3	4
	Liabilities quality indicator	3	3	2	2	4	4
	Liquidity indicator	3	3	2	4	3	2
	Profitability indicator	3	4	4	4	3	4

Table 8 (cont.). Scoring of the key performance indicators of the banks

Components	Key performance indicators	Bank 1 (2010 year)	Bank 1 (2009 year)	Bank 2	Bank 3	Bank 4	Bank 5
Clients	The share of banking sector assets	4	3	3	2	3	3
	Profitability of the loan portfolio	2	4	3	2	3	3
	The cost of credit products	4	3	2	3	3	2
Business processes	The share of arrears	3	3	2	4	2	4
	Coefficient of concentration of fines in bank expenses	4	3	4	4	2	2
	Coefficient of concentration of judicial and arbitration expenses in bank expenses	3	3	3	4	2	2
Staff	The share of personnel expenses in total expenses	3	2	2	4	3	2
	The share of training expenses in total expenses	4	4	2	2	4	3
	Staff costs per employee	4	4	3	3	4	3

Table 9. Weighted average values of components in unit

Components	Bank 1 (2010 year)	Bank 1 (2009 year)	Bank 2	Bank 3	Bank 4	Bank 5	I average
Finance	3,00	3,20	3,00	3,60	3,20	3,20	3,25
Clients	3,30	3,35	2,50	2,50	3,00	2,50	2,63
Business processes	3,25	3,00	2,80	4,00	2,00	2,90	2,93
Staff	3,65	3,30	2,45	3,15	3,65	2,65	2,98

At second stage the weighted averages values for Bank 1 for 2 reporting dates and for Banks 2-5 are determined. Let's pass to the following stage, namely to definition of a stability position of a Bank 1.

On the basis of the developed algorithms reflected in Figures 5 and 6 and received results of two previous stages we will define the stability position of Bank 1.

Based on the results received during application algorithms which are shown in Figures 7 and 8, we define the position of Bank 1 in order to form its sustainable development strategy. So comparison of Bank 1 and competitors showed that the components Bank 1 are better than similar components of competitors (Bank 1 gets to a Zone I), the figures of Bank 1 over two reporting periods indicate that components of the current period are better than components for the previous period (Bank 1 gets to a Zone I). Consequently, according to Table 5, Bank 1 gets to the group of bank with balanced stability, which corresponds to the concentration strategy.

Summary and conclusion

In conclusion, it should be noted that use of offered model of formation of sustainable development strategy for banks allows not only to determine the direction of bank development for achievement the most stable in all respects market position, but also to compare their position relative to its competitors and, therefore, to take timely action to increase their stability maneuvering available resources.

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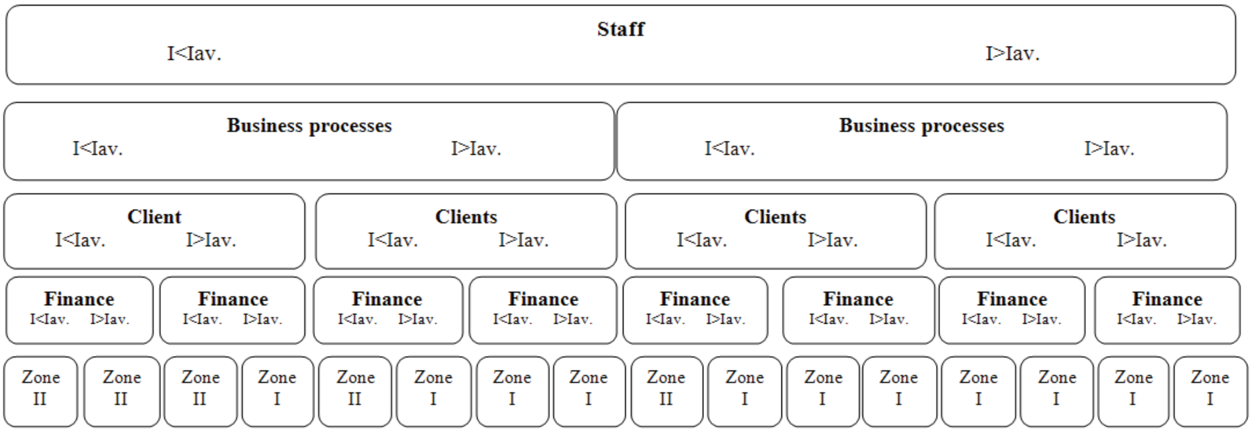
Appendix



Note: Iav. means average indicator.

Fig. 5. Competitive assessment of the bank

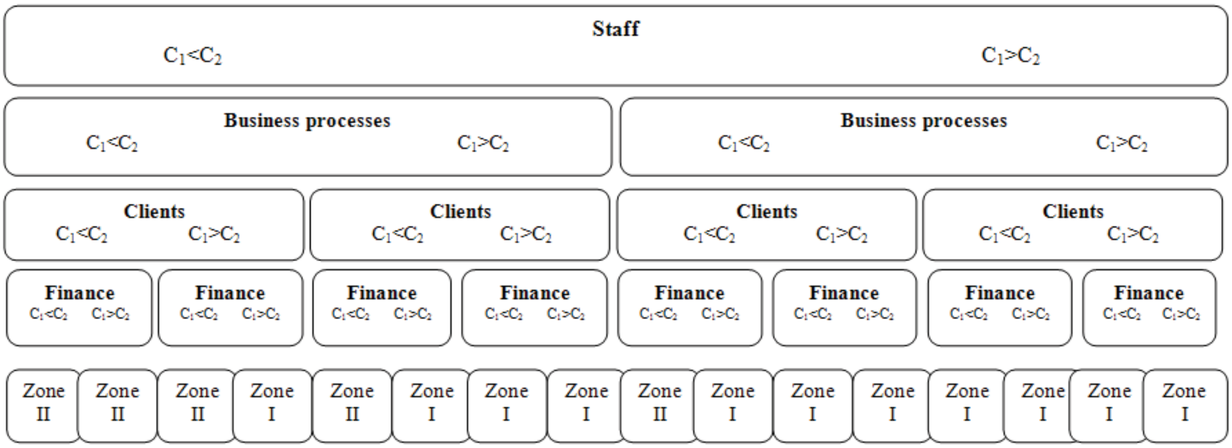


Fig. 6. Comparison components of bank over 2 periods

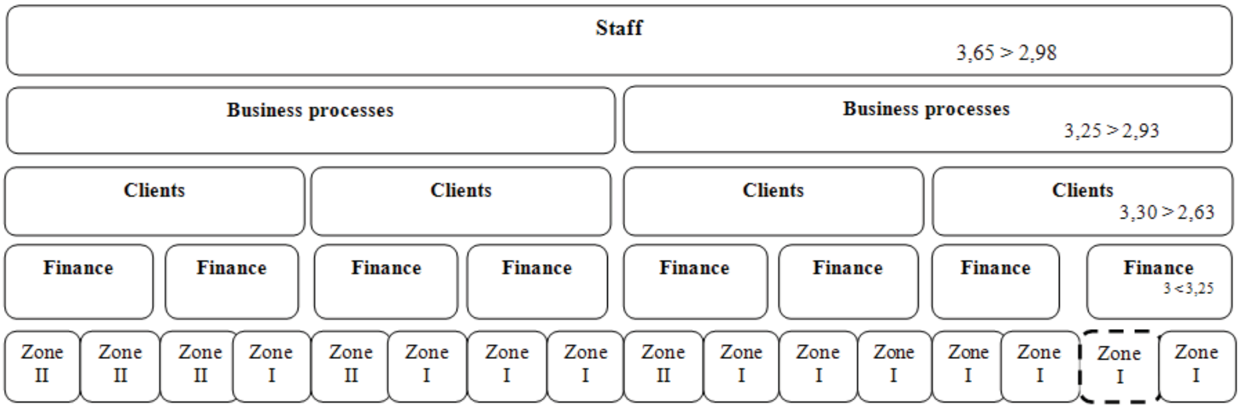


Fig. 8. Competitive assessment of banks

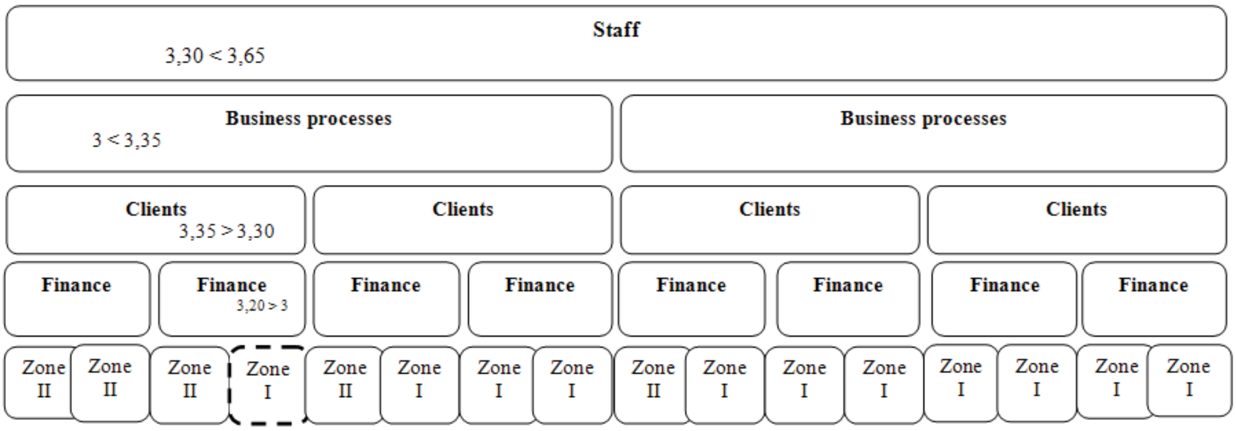


Fig. 9. Comparison components of Bank 1 over 2 periods