Operational risk assessment methods and alternative directions for reduction

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Abstract. This article discusses the existing methods of assessing operational risks in the field of banking, which are relatively applicable by leading credit organizations in general and by banks in particular. The main sources of operational risk identified by the Basel Committee at the beginning (the so-called "Basel Standards"), namely - personnel, processes, systems, external environment, internal and external sources of operational risk. Operating losses are divided into direct and indirect losses.

Next, the three main approaches to calculating the amount of capital to cover the operational risk recommended by the Basel Committee are discussed - the approach based on the baseline indicator, the standard approach, the advanced approach. Finally, the following authors' methods of risk assessment are recommended for credit risk management in credit organizations: statistical analysis of actual loss distribution, ball-weight method (valuation card method), modeling.

Keywords: Operating risk, Operating loss, Baseline indicator, Risk management, Actual loss.

As the analysis of banking practice has shown, operational risk is the probability of incurring losses as a result of deficiencies and errors as a result of deficiencies and errors in the internal processes of the bank, in the actions of employees or other persons, in the operation of information systems.

In banking lending, the Basel Committee classifies the following sources of operational risk:

- ⋅ Personnel (intent to take action by company employees who may harm its operations);
- Processes (errors in the execution of business processes or in the execution of official positions and incorrect execution of operations);
- Systems (disruption of ongoing operations due to information system interruptions or inaccessibility of service);
- External environment (pressures from the external environment or other threats that cannot be controlled by the company).

Internal and external sources (causes) of operational risk are:

- Accidental or premeditated actions of legal entities and individuals against the interests of the credit organization (risk of dishonest performance of their duties by bank staff, risk of staff overload, risk of data entry errors, risk of incorrect or incomplete information provided by the client, etc.);
- Imperfection of the organizational structure in the distribution of powers of subdivisions and employees by the credit organization (risk of incorrect organizational structure of the bank); Malfunction of banking transactions and other transactions, rules and procedures for their documentation and accounting

(methodological risk, legal risk, etc.); Non-compliance with the rules and procedures established by the employees; Ineffectiveness of internal control;

- Delays in the operation of systems and equipment, in other words technological risk;
- Adverse external circumstances outside the control of the credit organization (risk of asset theft, risk of unauthorized access to the bank, etc.);
- Other rest.

Operating losses can be of the following types:

In the form of direct losses:

- in the form of reducing the value of assets;
- In the form of early write-off (removal) of tangible assets;
- Court costs, penalties based on court decisions, fines imposed by oversight bodies, etc. Through cash payments;
- Cash payments to clients and counterparties, as well as employees of the credit organization in the form of monetary payments for non-judicial compensation of losses incurred through the fault of the credit organization;
- In the form of expenses for the restoration of economic activities and the elimination of the consequences of errors, accidents, natural disasters and other similar circumstances;
- In the form of other costs related to the elimination of the causes of risk generation and realization.

Indirect losses (not directly denominated in cash equivalent but having an indirect effect on the financial result):

- Loss of business reputation;
- Inadmissibility of planned revenues to the end;
- Suspension of activity due to unfavorable circumstances Technological delay;
- Customer outflow, etc.

In the practice of the country, the area of increased operational risk is represented by information technologies, which constitute a significant share in the overall cost structure of a financial institution.

Risk management:

An operational risk management system is much more complex than, for example, market or credit risks for the following reasons:

- Operational risk is an internal risk for a financial organization, so it is very difficult to create a universal list of reasons for this type of risk;
- Quantitative assessment of operational risk is very difficult.

Control and regular reporting are an important part of the operational risk management system. Minimizing possible operating losses under operational risk management is understood. It is provided by:

- Through a set of measures aimed at reducing (limiting) pre-operational losses and (or) the magnitude (potential) of potential operating losses to reduce the likelihood of circumstances or incidents occurring;
- Through measures to ensure the continuity of financial and economic activities in the implementation of banking operations and other transactions;
- Planning and developing scenarios for unforeseen situations;
- Providing operational recovery business in case of emergencies; Through the development and implementation of measures to limit and neutralize identified risk zones;
- Development of operations through banking technologies, rules and procedures;
- With information protection;
- Through the development of automation systems;
- Through other activities.

In order to monitor operational risk, a system of operational risk level indicators (circumstance fixing) is used, ie indicators related to the operational risk level used by the credit organization. When determining the risk indicator, a hypothesis is formed about the existence of an objectively measurable quantitative indicator of risk in the bank, which is characteristic of a certain group of losses. The following can be used as indicators of operational risk level: Data on the number of failed or unfinished banking transactions and other transactions, their frequency or increase in volumes; Staff transfer; Frequency of permissible errors and disturbances; The rest.

It is recommended to set limits (thresholds) for each indicator, which will ensure the identification of significant operational risks for the credit organization and their adequate impact on them in a timely manner.

Risk assessment methods:

The Basel Committee offers three approaches to calculating the amount of capital to cover operational risk:

1. Approach based on baseline indicator:

The given approach is based on the direct dependence of the level of operational risk (reserve ratio) directly on the scale of the organization's activities (total revenue).

Under modern conditions, the capital reserve ratio under operating risk is 15% of the average total revenue for the last three years.

2. Standard approach:

In contrast to the market indicator-based approach, the standard approach enables the consideration of operational risk generation characteristics in different

areas of activity, and it determines the amount of reserve capital from total income in terms of the standard types of activities of the bank.

The Basel Committee of the Bank offers the following ratios for the eight major types of activities:

Direction of activity:	Reserve from total income for the last three years:
Corporate Finance	18%
Trade operations	18%
Retail Banking	12%
Commercial banking services	15%
Services related to the implementation of payments and settlements	18%
Agent Services	15%
Asset management	12%
Retail Brokerage Operations	12%

3. Advanced approaches:

Advanced methods for using operational risk assessment involve the use of their own models of risk analysis. Banks may use their own operational risk assessment models with the permission of the supervisory authorities, provided that they meet certain quantitative and qualitative criteria. In-house risk assessment methods for operating losses should be based on statistics from the bank for at least five years.

The following methods of risk assessment are recommended for operational risk management in credit organizations:

1. Statistical analysis of the distribution of actual losses:

Methods based on the use of statistical analysis of the distribution of actual losses allow the prediction of potential operating losses based on past operating loss values in a given credit organization. When using these methods as initial data, it is recommended to use the information accumulated in the analytical database of the existing operating loss.

2. Ball-weight method (evaluation card method);

The essence of the ball-weight method in the assessment of operational risk lies in its comparison with measures to minimize it. Based on expert analysis, informative indicators are selected for operational risk management purposes and their relative importance (weight ratios) is determined. The selected indicators are then entered into tables (rating cards) and evaluated using different scales. The obtained results will be processed taking into account the weighted ratios and

comparisons will be made in the directions of the credit organization's activities, certain types of banking operations and other transactions. The use of the ball-weight method (valuation card method), in addition to the operational risk assessment, allows the identification of weaknesses and strengths in operational risk management.

3. Modeling:

Based on the expert analysis within the modeling method, possible scenarios of circumstances or cases leading to operating losses for the direction of the credit organization, certain types of banking operations and other transactions are determined and the model for generating losses and frequency distribution is developed, which is then evaluated.

Risk reduction techniques:

Operational risk mitigation methods may be offered:

- Allocation of functions related to the execution of transactions, which should be performed by the employees of separate independent subdivisions in order to exclude the possibility of personal liability for each transaction and the possibility of carrying out the financial transaction from the beginning to the end without agreement with other subdivisions;
- The creation of a specific environment, ie the existence of a built-in control system in day-to-day operations in order to re-control operations through confirmation or duplication of information by an independent controller;
- Introduce operational, technical and physical security measures (for example, by restricting physical and logical access to information through encryption, passwords, etc.);
- Ensuring data storage, processing and transmission, availability of duplicate capacities in telecommunication and computing networks, ensuring data and software integrity;
- Development of contingency plans and scenarios and the possibility of operational recovery of the business, ensuring continuity in financial and economic activities during the implementation of banking operations and transactions;
- Determining the acceptable level of operational risks acceptable for the Bank's operations in the financial markets, a sufficient limit on the amount of turnover within the scope of certain activities / volumes invested in certain assets / liabilities may be used as a sufficient limit for most transactions. It may be advisable to limit the magnitude of individual operations performed at operational risk;
- Legal control over the execution of the transaction (contracts and other documents);
- Confirmation of the execution of the transaction by the counterparty, ie making payments through the reliable channels of the contract on the execution of