SPECIFIC ELEMENTS RELATED TO BANKING OPERATIONAL RISK

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Abstract

Risk is a vital component of companies operating in any field of economic activity, which cannot be combated, but only managed, considering that if no risk is assumed, opportunities for gain can be lost. This implies that the risk assumed under well-established conditions can add value to the credit institution, representing a process in which risk management becomes a competitive advantage, ie it represents the art of making decisions and acting on the basis of sometimes insufficient data. .

The banking system is an indispensable segment of the economy as a whole, whose degree of development depends on that of the country. Every nation is interested in creating a solid and stable banking system that maintains its efficiency in unforeseen situations and generates real incentives and information for all financial participants.

The Basel Committee has drafted rules and regulations recognizing the impact of operational risk on the activity of credit institutions, in line with changes in the financial-banking market, stressing that implementing proper risk management is vital for the existence of a financial institution.

At international and national level, starting with 2018, an increasing importance has been given to identifying risk problems and capital adequacy of credit institutions and investment firms, thus creating models for managing and quantifying operational risk. . European legislation aims to harmonize banking methodologies and legislation at EU level in order to give institutions the possibility of free establishment and operation.

European supervisors have found that in the face of the financial crisis and the prolonged economic recession, the capitalization of banks imposed by the Basel Accords is insufficient, unable to absorb the consequences of banking risks and ensure economic development through lending, and the need for more complex prudential policies. reunited in the form of a new agreement.

Keywords: Basel agreement, risk, banking system, crises, recessions, losses, economic development.

JEL Classification: G20, G40

Introduction

The banking system was affected even before the financial crisis due to the exorbitant increase in credit and inadequate liquidity coverage, the questionable quality of capital to absorb losses and the lightness of the financial system, the significant systemic risk and the incorrect, inadequate support of banks. .

Regardless of the degree of development, Basel is relevant for all countries and implicitly for all credit institutions regardless of the complexity of their activities.

In the context of the economic crisis, the Basel Committee on Banking Supervision has made a new set of recommendations, namely Basel calling on credit institutions to triple their capital reserves, measure and control liquidity risk, and strengthen the business relationship between banking institutions. credit and banking clientele for the development of monetary and financial creation.

The application of the Basel Agreement was aimed at improving bank capital,

reducing the excessive exposure of institutions, strengthening transparency and ensuring liquidity for each bank and the banking system as a whole, ensuring the strengthening of bank balance sheets and supporting sustainable economic growth, in order to cope with a crisis similar to the current one.

The regulatory and supervisory framework of the future banking sector will be substantially changed following the application of the Basel provisions aimed at strengthening the stability of the financial system by applying standards that help mitigate shocks in the economic and financial sector and reduce the risk of contagion from the financial sector to the real economy. . These standards aim to improve risk management, tighten the transparency requirements of credit institutions and solve systemically important banks' problems, with a view to reducing the negative effects of financial crises by increasing capital adequacy, liquidity and leverage requirements.

Although at European level, the impact of the introduction of Basel's capital requirements on the banking system will generate drastic decreases in profitability indicators as well as capital and liquidity deficit, Romania will not be affected due to the structure of the funds. Depending on the period they have available for the implementation of the new requirements, credit institutions may issue shares, may change the structure of liabilities or capitalization of profit, or change the structure of assets by reducing the supply of credit and increasing capital.

In terms of cost-benefit analysis, the Basel Accord offers far superior advantages, given that sustainable development with long-term effects can only be ensured under the conditions of a stable banking sector, which will be ensured through micro-prudential, macro-prudential and capital conservation.

The capital increase has an insignificant long-term impact on lending, so it cannot negatively influence economic growth, providing high security and greater confidence in the bank's position, and over time the costs of the process increase unnecessarily.

Literature review

So far, the risk has been studied from a statistical point of view, not identifying the root cause of losses, being considered an external factor. C.C. Kiritescu and E.M. Dobrescu offered the most comprehensive definition of risk as a future event and probably the occurrence of which could cause certain losses. Uyemura and Gelder (1992), trying to define and explain banking risk, start from the idea that risk represents the volatility of the net cash flows of a business unit. M Rouche and G. Naullen define risk as a commitment that carries a given uncertainty, with a probability of gain or damage, the latter being degradation or loss. Doerig (2000) considers that Risk creates value and profit comes from taking risks, and Paul Getty is of the opinion that. Where there is money, there is also risk. Kuritzkes (2002) stated that operational risk is a non-financial risk that comes from three sources: internal risk such as risk due to dishonest employees; external risk coming from uncontrollable sources such as terrorist attacks or natural disasters; and business risk considered the most important but ignored by the Basel Accord. Culp (2001) considers that operational risk is everywhere, but important risks affecting the value of the institution must be identified, which is very difficult because: it is difficult to make a distinction from business risk; it is linked to credit and market risk; Different companies use different organizational processes to deal with operational risk. Agoraki, Delis and Pasiouras (2011) focused their research on the regulatory framework and risk-taking in banking in transition countries. Anghel, Sfetcu, Bodo and Burea (2017), as well as Anghel et al (2016) performed an analysis of the main banking risks. Anghelache, Anghel, Iacob and Pârțachi (2020) aimed to identify techniques for quantifying operational risk and modeling it, as well as to capture the impact that moral hazard can have. Anghelache and Bodo (2018) presented the main theoretical elements regarding the occurrence and evolution of risks in the economic field. Anghelache (2006) highlighted the statistical tools used in the analysis of financial-banking risks. Pyle (1997), Doerig (2000) consider that operational risk is the cost of the non-execution of the activity referring to a wide area, as a division of this risk into two components, the risk of operational failure and the strategic operational risk, ranging from trading inaccuracies and accounting errors in terrorist and settlement activities, improper sales practices and system failures, regulatory violations, and natural disaster events. The PNC Financial Services Group (2001) recommended the use of a more concise definition of operational risk. Harmantzis (2002) demonstrated that the risks faced by an institution are completely independent of each other. Peters et al. (2009) presented aspects related to the dynamics of operational risk.

Methodology, data, results and discussions

Linguistically, risk was defined as the probability of an event with adverse consequences for the subject. Over time, several general definitions have been formulated for the term risk, the difference between risks being difficult to achieve, thus generating various ambiguities and divergences. Thus, in banking, risk is a general feature, its management not being translated only by minimizing the expenses it could cause, but also by stabilizing revenues over time, as a shock absorber.

In order to be able to track, measure and control the multitude of risks to which any organization is exposed, an appropriate inventory and definition must be made. Thus, the adequate management of this phenomenon implies the optimization of the risk-return pair, adapting the performance indicators to the risks.

Following the combination of the frequency distribution and the severity of the loss, the estimation of the average will provide the expected loss, and the difference between VaR by 99.9% and the expected loss will result in the unexpected loss, the capital.

Banking risk has been defined in many ways, taking into account the intermediary function of credit institutions, causing losses on assets, or causing random and uncontrollable losses.

In the literature it has been established that risk is an essential component associated with all economic activities, which cannot be combated, but only managed, considering that if no risk is assumed, opportunities for gain can be missed. Any entity seeks to maximize its profits by managing the risk specific to its business and by avoiding or transferring the risk that it does not wish to take. A successful strategy of a financial institution must include programs and procedures for managing banking risks, which aim at minimizing the probability of occurrence of these risks and the potential exposure of the bank, so as to achieve the central objective, namely to obtain as much profit as possible. shareholders. In reality, however, there may be situations in which the cost of implementing and operating risk management procedures is higher than the potential risk exposure or cases where the bank's strategy involves taking on increased or new risks. Therefore, risk minimization must not become an end in itself.

The financial institution is liable for all specific risks arising as a result of making a profit, provided that prudential measures are taken, so that the risk exposure is justified by the projected result, the financial situation of the institution is not significantly affected by possible losses that may be covered. the provisions set up or from profit, and the sizing of the risk is carried out in such a way that the occurrence of the loss is acceptable and does not affect the image of the financial institution.

The financial institutions may face numerous risks, which may or may not be controlled, but which affect the financial situation, by the nature of the activity they carry out being the most affected by the change in economic and financial conditions. In the financial field, risk must be treated as a conglomerate or complex of risks, often interdependent, the production of one being able to generate production in the chain and others.

The risk can have an impact in itself (direct losses incurred) or induced (effects on customers, staff, partners, banking authorities), important on the value of a financial institution. Thus, we can define risk as a probability of occurrence of an event that has adverse consequences for the subject, and exposure to risk as the present value of any additional losses or expenses that the organization in question would incur.

The development of the complexity of the products and activities carried out by credit institutions has led to an increase and diversification of risks that can be grouped into financial risks (liquidity risk, credit risk, solvency risk, interest rate risk, currency risk), operational risks , business risks, and in most cases being independent, but in a continuous interaction, and may even affect the entire banking system. Thus, an event can cause one or more internal losses, an incident without financial impact (quasi-loss, image risk) or a combination of them.

The risk management can be achieved through a partnership between supervisors, shareholders, the board of directors, executive management, internal and external auditors. Shareholders establish the boards, manager and auditors so that the rules of ethics and competence are met. The Board of Directors is responsible for the normal functioning of the credit institution, establishing the policies to be implemented by the executive manager, who has the appropriate training for the proper management of the financial risks on which the public image of the bank ultimately depends. The manager must also observe the interaction between risk management and the other components of banking management in order to use the information for the benefit of the credit institution. Corporate governance, control systems and risk management processes are ensured by the audit committee by testing the compliance of the initially established policy.

The risk management must be a daily activity of any bank to ensure the correct application of risk management systems, compliance with procedures and internal control, so as to avoid as much as possible the failure of risk management, which has been proven to be caused by inadequate control and inefficient decisions.

The Basel Committee has taken a prudent approach to the capital requirement in relation to the risks assumed by banks, proposing several different management methods in terms of complexity, efficiency and implementation costs.

The continuing concern about reducing risk exposure can also have effects on employees who become much more rigorous and responsible, as well as having a psychological effect that can lead to discouragement of fraudulent activities.

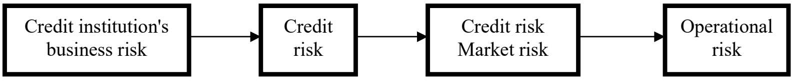
Unfortunately, 75% of frauds are discovered by chance, so the main defense against them is the ethical culture and a vigilant management of the institution.

Until the 1990s, operational risk was unimportant, until events that generated operational risk caused significant damage to financial institutions that required reorganization, improved management, and a focus on controlling the business environment.

The operational risk can be defined as an area characterized by events with low and predictable frequencies such as process, system errors, accompanied by a high loss every ten years, such as serious system errors or asset destruction. Today, these high losses have become much more common and visible in the media industry.

Operational risk treated as a residual risk

Figure 1



Initially, operational risk was treated as a residual risk resulting from the removal of market risk and credit risk from all risks that an institution faces in the course of business. The recent changes in the financial-banking market have led to the emergence of increasing and more complex risks, and thus the adoption of operational risk is a mandatory issue that must be addressed by any credit institution, according to the Basel Committee.

Operational risk is the improper or inadequate impact on the institution's activity resulting from acts committed or negligence in conducting business, most of which arise from the processing of transactions, being determined by inappropriate human behavior, fraud, lack of proper procedures, processes or control, failure of techniques, projects, management systems, outages, execution structures, disasters or other external events.

The PNC Financial Services Group recommended the use of a much more concise definition of operational risk, which is based primarily on direct losses and which categorically excludes business risks, both strategic and reputational, in the form of: operational risk is the risk of direct loss of revenue. from internal events related to inadequate personnel, serious errors or illegal behavior due to errors or inadequacy of processes, systems or from external events where the risks are not covered by the credit and market risk.

An indirect definition of operational risk would be what cannot be included in market and credit risk, being a simple definition, but not practically and theoretically not agreed, because it does not address the key aspects of defining and delimiting the terms.

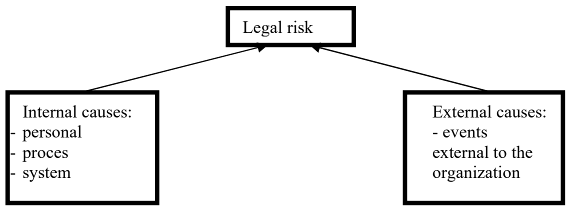
If the banking institution has not implemented adequate risk management, it is exposed to dangers that can materialize through significant losses, which can even lead to the cessation of the institution's activity.

The increasingly frequent losses due to operational risk have laid the foundations for a more in-depth investigation into this type of risk, which materialized through the adoption of the Basel II Accord. Prior to this agreement, operational risk was treated as a distinct category that could not be quantified and insured.

Operational risk has been defined by the Basel Committee as a risk of direct or indirect loss resulting from deficiencies or deficiencies in procedures, personnel, internal systems or external events, with the main component being the legal risk arising from non-application or misapplication of the provisions. legally or contractually adversely affecting the bank's operations or situation, but excludes strategic risk and reputational risk. The reason why the Basel Committee does not include the latter type of risk in the definition of operational risk is that although reputational risk can be identified, the consequences appear to be very vague and the specific data pre-calculated. Strategic risk is excluded from operational risk because it is difficult to determine the financial losses incurred.

Causes of legal risk

Figure 2



Legal risk has been considered as a component part of operational risk because it is a manifestation of a potential operational risk, constituting an indirect cause deriving from one or more causes such as internal personnel, processes, systems or external ones, ie events outside the organization.

Definition of operational risk under the Basel Accord

Figure 3

This definition focuses on losses due to omissions in control, system inaccuracies and lack of information to management. Merrill Lynch considered that this definition did not clearly specify how the nature and extent of indirect losses should be interpreted, which would force institutions to reconsider their own definitions.

The operating loss under the Basel II Agreement is the loss resulting from an operating loss event, including all expenses associated with that event, except for opportunity costs, revenue and risk management costs and increased control to prevent future operating losses.

The risk is not accepted by a financial institution as something that happens, but as a continuous struggle, being measured by the probability and impact of negative deviation. The terms of acceptance or refusal of risk reflect the institution's ability to assume risk and its attitude towards risk. Acceptance of unexpected loss is determined by economic, social and psychological elements.

Thus, among the characteristics of this definition we can state: the attention paid to the internal aspect, differentiating it from the credit and market risk; a decisive role is given to people and the mistakes they make out of self-interest and / or ignorance, there are three types of operational risk in this context hazard, errors or conflicts; the importance given to the processes places the management of this risk very close to the quality management of the institution; External incidents are natural, political or military events, losses and deficiencies in technical infrastructure, as well as legal, fiscal and regulatory changes that occur outside of credit and market risk. The internal control system plays an important role, the accepted elements and rules were neglected during the periods of restructuring and innovation. Thus, many losses could have been avoided or limited if the established rules had been complied with.

A loss from an operational risk can only result from an event characteristic of that risk, which is an incident occurring as a result of a business process, with the exception of the strategic and discretionary process. Several losses associated with an event have been found and therefore the basic event research is justified, and the ORX Association recommends that repeated errors be considered separate events if they are caused by misunderstanding, lack of preparation or poor control, and repeated errors. arising from the insufficiency of the model, the business process or due to the failure of a product to be considered a single event. The ORX Association also recommends that multiple customer compensation be considered a single event if there is a fundamental joint statement regardless of case resolution, multiple impacts of a mistake are considered a single event, and independent losses due to a common action plan are considered. to be a unique event.

The operational risk can also be interpreted as a vulnerability of the financial-banking institution that can be reduced or minimized by increasing controls. Operational risk is the risk of direct loss resulting from operational failure covering regulatory losses, losses resulting from system failures, documentation or tax change problems, input errors or resulting from increased expenses that affect the profitability of operations. Thus, incorrect input pricing affects the price of the product or service, incorrect regulations can lead to an erroneous capital requirement, if incorrect input data can result in mistakes in payments, inadequate documentation can lead to incorrect cash flows or mistakes in calculating coverage or incorrect market data can lead to incorrect prices.

Also, operational risk is the risk of indirect loss if it is related to the impact of this risk on other risks. Thus, if the input data is incorrect, incorrect market risk estimates, incorrect credit risk measurement, incorrect position taken in case of liquidity risk estimate, in case of incorrect confirmations, hedging errors may occur, in case of system failure it is impossible monitoring of market risk, credit, liquidity, hedging, incorrect market data in case of revaluation lead to an incorrect position in case of market risk measurement or a measure of incorrect credit risk exposure.

The operational risk is seen as a common risk, but the most dangerous type of risk, due to the fact that it is an idiosyncratic risk and largely depends on the type of institution and the market, which means that there are no standard procedures and data relevant to the risk. operational and related management are very complex. Operational risks are very difficult to manage due to the fact that they are in a complex interdependence, in the sense that the reduction of operational risk may have an undesirable effect on other risks. The risk of operations can have a significant impact on other risks, such as the 1995 Barings case which led to a loss of market value, ie a market risk.

The lack of a clear definition for this risk has created the possibility for financial institutions to analyze all categories of operational risks, which include the risk of fraud, personnel, process, marketing control, reputation, security, liquidity, takeover, transfer, bankruptcy, use of improper methods and formulas, non-performing systems, legal, technological, regulatory changes or the occurrence of natural disasters. The operational risk is generated by internal processes, human risk, systems and external events.

The internal processes generate losses due to failed transactions, regulations, customers, in the form of errors in data entry, unauthorized access, loss of customer assets, error in product pricing, incorrect or failed entry, execution and registration of the transaction and accounting records inappropriate. According to the Basel agreement classification, the following components are included: execution, delivery process management, risks arising from customer relations, products and business practice. Human risk generates losses due to employees or affects the institution's relations with supervisors, customers or third parties, in the form of internal fraud, recruitment and retention issues, unauthorized transactions, insider dealing, discrimination, employee illness / injury and much more. According to the Basel agreement classification, the following components are included: internal fraud, employment conditions and job security, risks arising from customer relations, products and business practice. The main causes are the motivation, selection and training of staff.

The systems risk, being a natural consequence of business overdevelopment and usually banks use standard techniques to prevent risk and mitigate adverse effects, generates losses on business or systems due to infrastructure or IT, including software or hardware errors, system disruption , telecommunications failures, access to unauthorized security of information and systems, program errors, piracy, viruses, unavailability of systems and data integrity.

The external events generate losses due to the third party, such as external losses, or destruction of assets, the exchange of regulations that affect the continuation of the institution's activity, such as: terrorism, natural disasters, fraud, fires, etc. According to the Basel agreement classification, the following components are included: external fraud, damage to tangible assets, interruption of activity and operation.

The most common losses due to operational risk according to a study conducted by RMA are those due to internal processes (65%), followed by those due to the human factor (26%), external events (7%), and systems (2%).

In the literature, operational risk is also defined as the risk of unexpected losses due to deficiencies in internal control or information systems caused by human error, system crashes and control.

A financial institution must classify its losses into three categories, namely: the expected loss to be absorbed by net profit, which can be incorporated into the price of the transaction that generated it, the unexpected loss to be covered by risk reserves. (so not entirely unexpected) and external loss, which requires core capital or insurance or reinsurance coverage.

Many institutions currently differentiate between controllable risks posed by risks in which the bank's actions may influence the result, which can normally be hedged without recourse to a third party, and uncontrollable risks which are represented by risks which cannot be internally controlled. normally by the bank, and can be covered by insurance against natural disasters, the allocation of risks to an insurance company, financing by a third party.

Ebnother, Vanini, McNeil, Antolinez defined the quantitative operational risk for a set of production processes as the risk of operations above a certain value. The cost of defining processes can be very high if all processes require definition or the definition is done at a deep level of aggregation or if they are not characterized by stability over time.

Operational risk includes many facets of business risk, but many definitions do not include business cycles and income tax fluctuations. Thus, in terms of defining operational risk, some financial institutions consider that this risk arises in the operations departments, which will be managed by a risk committee, which generates losses due to inadequate controls, systems and processes, and the rest financial institutions treat this risk as everything that cannot be included in market and credit risk, but can be determined relatively.

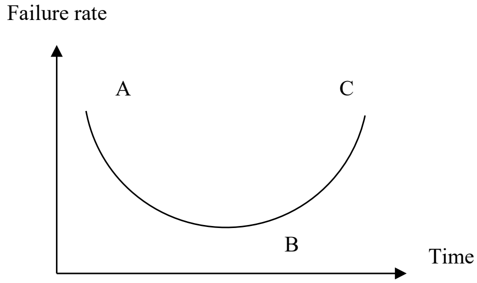
Operational risks appear long before market or credit risk, from the moment of establishment, once the organization uses employees and / or systems in internal processes or is exposed to external impacts, manifesting itself in all forms at different stages of development. and the activity of the banking institution. In the event of significant losses, it is almost impossible to categorize them according to the model presented by the Basel Committee, but this can be addressed by taking into account a number of features, such as catastrophic events, ethical and infrastructure disasters and learning. McConnell concluded that catastrophic events are the result of a combination of factors, such as improper activities by one person or group of people, non-adherence to the institution's policies, procedures, and aberrant culture that do not encourage open risk discussions but encourage risk-taking. imprudent. Ethical disasters are serious failures of ethical values within the sector.

Infrastructure disasters are the destruction of financial infrastructure, such as the 2001 terrorist attack or natural disasters. In recent times, there has been a growing concern of supervisors to protect the technological infrastructure of the modern banking system. Thus, it is recommended to purchase additional insurance that is considered much more effective than using capital as protection against operational risk, as credit institutions can benefit from additional information on this type of risk from insurers, as well as from higher capacity. loss coverage due to global diversification. The requirement for self-insurance of risks, in the absence of complete information, may lead to excessive capital held in the system which may create inefficiency in the market.

The Learning Curve phenomenon measures the impact of the failure of the components of the technical system (losses arising from innovations, such as the development of a new product or the implementation of new technologies), whose probability of failure follows the water holding curve, which has three periods shown in the following figure:

Learning curve

Figure 4



Area A is the learning area - frequent failures due to lack of experience or quality issues;

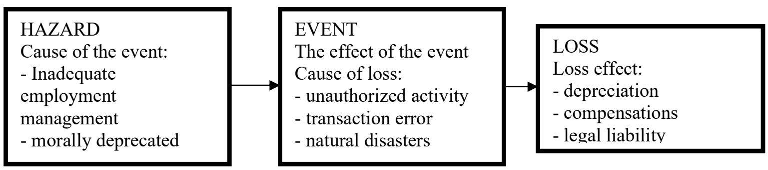
Zone B represents the maturity zone - failures that are not frequent or are random;

Zone C represents the aging zone - failures due to the depreciation of the components.

This learning curve also has a number of shortcomings, namely it violates the hypothesis of stationarity, the frequency of events is not considered invariant over time and the frequency of events is random only during maturity.

The process of loss occurrence

Figure 5



As can be seen from the figure above the loss is an effect of the event, while the event is a cause of the loss, as well as an effect of the hazard, while the hazard is a cause of the event. Each loss must be associated with the event that caused it, and each event must be associated with the hazard that caused it. By definition it is not clear whether internal processes, people, systems and external events refer to types of events or hazards.

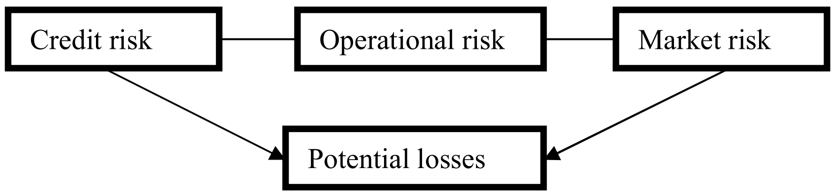
In developing the methodology for quantifying the effects of reducing operational risk through insurance, several aspects must be taken into account, such as: the amount of capital reduction due to insurance must be determined without using modeling methodologies, the capital reduction due to insurance must be measured by reducing the bank's risk. so as not to introduce moral hazard, adverse selection or supervisory arbitration.

Observing what has happened in the past we can say that operational risk is an important cause of financial losses in the banking sector. The fundamental concepts and basic elements of the proposed regulatory framework for operational risk follow the logic of the Market Risk Amendment, namely: increasing the complexity of measuring this risk from the Basic Indicator Approach to the Standardized Approach to the Advanced Approach, sizing the capital allocation generated by the Approach Basic and Standardized as an incentive to move towards the Advanced Approach and last but not least, rigorous qualitative and quantitative requirements for the use of the Advanced Approach and a lower use of the Standard Approach.

Analyzing these cases in depth and studying the causes, rather than the consequences, we note that the losses caused by market or credit risk are direct or indirect materializations of operational risk.

Manifestations of operational risk materialized by market or credit risk

Figure 6



From an economic point of view, operational risk covers the place of dimensions, in which the macro environment has impact and effects on the entire banking system, and the micro environment has impact and effects on an institution.

The characteristics of operational risk as presented by the Basel Committee are: a business risk is inextricably linked to all commercial activities; operational risk is distinctive, by its exact form, diminution and control depend on the profile of the company and is a cultural risk, risk management in its composition depends on the approaches and procedures used daily.

Jarrow divides operational risk into categories: risk caused by the company's system and technology, including internal process failures, and risk of loss due to agent cost, which includes fraud and mismanagement. Thus, the first category is based on systems / processes, and the second on incentives.

Among other characteristics of operational risk we can list its continuous and dynamic change in relation to strategy, processes, technologies, competition, culture, business systems, its definition through internal parameters that depend on processes, systems, technologies, staff and culture of the organization. In general, risks from external factors are uncontrollable or partially controllable, and the most cost-effective strategies for reducing operational risk involve changing the organization's processes, systems, technology and staff.

In response to managers' desires for a complete view of the company's risk, operational risk must be presented in terms comparable to credit and market risk. In contrast, operational risk has some major conceptual differences. Thus, credit and market constraints are much easier to measure and control, as risk factors and the possibilities of occurrence of risk are better differentiated due to widespread acceptance of risk. In the same vein, credit risk is typically developed on the basis of a consistent process, influences the probability of meeting obligations, the extent of exposure, and the resulting exposure is subject to a common risk, such as declining economic activity.

Similarly, market risk arises from the fluctuation of financial asset prices, presenting properties that can normally be managed in a consistent manner and modeled after a common process. While credit and market risk are optimized in terms of the risk-return relationship, operational risk is minimized. The heterogeneous nature of operational risk makes it particularly difficult to use limited data. Operational risk refers to the causes and less the consequences of loss, and its reduction is closely linked to proper management, reducing loss through corporate governance, insurance and early planning.

In the case of operational risk, a clear relationship cannot be established between risk and income, ie a higher risk does not imply a higher income. The potential for loss and risk exposure is more difficult to determine because connections between risk factors must be made and then the probability of loss occurring.

There is a skeptical attitude towards the statistical power of Operational Value at Risk (OpVaR) at high levels of confidence, due to isolated cases of significant operational losses that threaten the stability of a credit institution.

Operational risk is implicitly considered to be part of the entire institution not at the level of transaction, system or process, leading to a lack of comprehensive and appropriate statistical databases, and due to differences in financial activities, practices and internal controls, events Losses for a bank are not necessarily transferable to other banks. In the case of market and credit risk, there is a direct link between the cause of the risk, the size of the position and the level of risk exposure, ensuring the assumption of the potential impact on the financial institution.

Coopers and Lybrand identified a number of risks that they classified into three categories that reflect potential management methods, namely:

- risks suitable for quantification, characterized by high frequency, such as: errors in the trading or control process; system failures / errors; staff risk; internal and external criminal acts;
- insurable risks: system failures / errors; internal and external criminal acts; destruction of the organization's framework; interruption of activity due to disasters; legal liability;
- risks that are difficult to manage through quantification or insurance, whose frequency of occurrence is very low, such as: incorrect or incomplete management information; violation of the organization's policy; inappropriate management decisions; staff risk; internal and external criminal acts; violation of compliance; destruction of the organization's framework; legal liability.

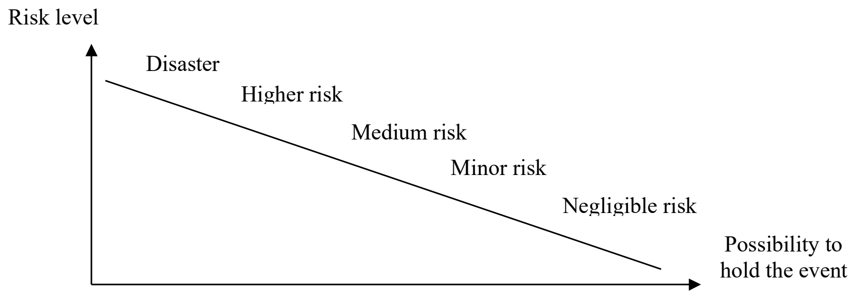
The determining factors of this risk that lead to the recording of losses or the non-realization of the estimated profits are of two types internal factors and external factors. Thus, the need to carry out a high volume of transactions in a short period of time entails other risks such as: data damage in case of unauthorized intervention in the system; data loss in case of system failure; large-scale distortions due to malfunctioning of internal control; incorrect conduct of complex transactions; improper processing of transactions executed in a timely manner, resulting in the impossibility of receiving or making payments; manifestation of market risk due to lack of correct and prompt information. Also, the need to use electronic funds transfer for the purpose of transferring high values attracts various risks arising from fraud or error, and the need to conduct operations in several places involves a geographical dispersion of processing and internal control of transactions which can lead to a improper aggregation and monitoring of the bank's exposure to customer, product and control failures that may remain undetected or uncorrected due to the physical separation between management and transaction handlers. The administration of a large volume of monetary instruments can lead to losses due to theft, fraud committed by employees or other parties. At the same time, there is a need to monitor and resolve important exposures that have occurred over a short period of time, following transactions with partners or customers, which include market risk. For example, the clearing process in the case of transactions can lead to the appearance of receivables / payment obligations that will be largely extinguished by the end of the day, also called payment risk from the current day.

Regarding the volatility and inherent complexity of the environment in which banks operate, they give rise to erroneous risk management strategies or the development of new banking products and services.

Operating restrictions may be imposed due to non-compliance with laws and regulations. Operations abroad are subject to existing laws and regulations in the countries in which they are headquartered, as well as those existing in the country in which the parent company has its registered office. In order to achieve a proper management of this type of risk, it is necessary to know the risk factors, the operational losses being the result of random risk combinations that lead to the ranking of the risk value, according to the following figure.

Hierarchy of operational risk value

Figure 7



There are more and more frauds in the financial sector due to poor computer security and for this reason the risk manager of each financial institution should give more importance to the elements of computer security controls by ensuring that there is a clear, documented information security policy, that there are people responsible for process security and to continuously assess the likelihood and impact of operational risks by creating a database containing information related to computer failures and circumvention of security measures.

A cause / effect matrix called the *Risk Identification Matrix* is used to identify and delimit operational risk.

According to reports by Symantec Internet Security Threat, cyber attacks on financial institutions have seen a significant increase, with hackers increasingly trying to obtain personal and financial information in order to make significant gains, which leads to an increase in risks for these institutions.

Given the continuous growth of phishing activity, due to its very simple execution and the significant gain obtained in a very short time, financial institutions call for an integrated solution regarding the advanced security and validity of the risk mitigation mission, so they set up Theft Identity Assistance created by BITS and The Financial Services Roundtable, which provides assistance to customers of member companies who have been victims of theft by reducing the time it takes to recover their financial identity. Thus, they meet software requirements for business security, to encourage software companies to reduce vulnerabilities in their products and make the repair process more efficient and effective, being published by BITS and the Phishing Prevention and Detection Network, of which BITS, to help stop the frauds that the author is looking for by providing official data.

In the last period of time there has been an increase in operational risk due to organizational changes, infrastructure, business environment or the progress made in the increasing use of automated technologies that turn the risk of manual processing into the risk of system failures; increased competition due to financial innovations and market pressure that led to more complex and comprehensive products; the increase in e-commerce which has facilitated the increase of transparency and market speed exposes the institution to new potential risks; delegation and decentralization of management staff that requires quality standards and coherence of decisions taken; increasing use of external sources and sophisticated market and credit risk mitigation techniques; increasing the interest and control exercised by investors over management responsibilities; globalization which involves risks associated with the institutional structure, regulation and problems arising from the time zone, more offices, differences in communication and work; mergers, acquisitions and consolidations in the banking system with an increase whose impact has been observed on people, processes, technology and organizational structure; stepping up operations for individuals and small businesses requiring high-level internal controls and recovery systems.

The Basel Committee on Banking Supervision presents seven categories of operational risks, namely: internal fraud, external fraud, risks arising from customer relations, products and commercial practice, damage to tangible assets, interruption of activity and officials, execution, delivery and management processes, staffing conditions and job security.

The internal fraud generates losses due to intentional non-compliance with internal regulations, the policy of the institution or the laws involving at least one employee of the company, carrying out unauthorized activities (neglected or intentional, in the form of unreported, unauthorized transactions, unregistered transactions), theft or fraud (worthless credit / deposit fraud, theft, robbery, misappropriated assets, destruction of property, evasion), excluding events such as discrimination or violations of the principles of diversity.

The external fraud generates losses due to the activity of a third party in order to fraud, avoid compliance with the law or goods / values, violations of security systems (hackers, information theft, robbery, forgery, hacking of computer systems), theft fraud (robbery, forgery).

The risks arising from customer relationships, products and business practice are related to negligence in fulfilling professional obligations to customers or related to the nature and design of the product, such as compliance, termination and price (non-compliance with procedures, erroneous contracts, aggressive sales, change of accounting records, improper use of confidential information, improper lending), inappropriate business or market practices (money laundering, improper trade, market manipulation, unlicensed activity), losses due to processes (sale of unauthorized products, erroneous models and products, misuse of services / products by customers).

Damage to tangible assets leads to materialized losses in the deterioration or loss of the physical assets of the organization and their impact on its activity: calamities and other events (disasters, fires, earthquakes, explosions, plane crashes, shipwrecks, telecommunications and power crises, acts of terrorism, vandalism or other events).

Interruption of activity and operation are risks resulting from the unavailability of systems (hardware, software, data quality, problems of computer programs, related to telecommunications, component failures, programs, design, implementation, poor maintenance of electronic-banking system, excessive use of utilities).

Execution, delivery and management of processes cause losses due to incorrect execution of transactions (wrong communications, data entries, stolen maintenance / downloads, overdue deadlines or unfulfilled responsibilities, accounting failures), faulty monitoring and reporting (errors in reporting obligations,), incorrect customer information, erroneous records of input data (partial documentation, failure to obtain customer acceptance), administration of customer accounts (improper administration of collateral, unauthorized access to accounts, incorrect customer records, negligence affecting or may affect customer assets).

The conditions related to the employment of staff and the safety of the workplace are losses resulting from the violation of the law regarding the employed personnel, among which we can enumerate: employment relations (compensatory demands of the personnel, organization of work and activities); safety of the working environment (non-compliance with labor protection rules, omissions, workers' compensation) diversity and discrimination (promotion of discriminatory policies).

Pricewaterhouse Coopers has developed a scheme for classifying the types of events that can occur in the business of a financial institution, which include: criminal cases that lead to losses from fraudulent or internal and external criminal acts; sales practices that result in losses from improper transactions conducted by the institution related to customers; improper processing of poorly documented transactions and incorrect data entry provides losses; unauthorized activities that result in losses from ignoring the authorities, hiding positions and conducting unauthorized transactions, which may be considered to result from a combination of risk sources such as the transaction process and the management process; human resources that cause losses when management makes errors in selecting employees, being considered the main cause of other sources of risk; the management process that provides losses from the failure of management to fulfill specific obligations or from the exercise of improper reasoning; technology that causes losses due to failure or inconsistency of internal software / hardware systems; the external environment that causes the decrease of economic activity led by the decrease of back-office staff and disasters that cause losses from natural disasters, changes in laws and regulations, actions of sellers and bidders.

The most common examples of operational risk include system failure or system errors, transaction processing or error control, interruption of activity, internal and external criminal acts, including breaches of security and personnel risks, inadequate control and supervision of all personnel. levels, lack of responsibility and instructions related to internal processes or from external pressures.

There are also differences between the losses suffered by small and large institutions due to the complexity of the products, the size of the transactions as well as the risk management practices.

The management of a financial institution focuses on measures that can ensure business continuity, operational continuity regardless of the type of disruptive event that could lead to the cessation of the bank's business.

Operational risk can occur at the level of personnel, procedures, at the technical and technological level. At the staff level it appears in the form of human error, inexperience and fraud, recorded in the form of destruction, falsification of records, improper records, misuse of important information, non-disclosure of sensitive influences, misleading advertising, hiding losses or problems of assets, improper income growth profit.

In the case of risks arising from relationships with shareholders, supervisors, customers and others are paid penalties, refunds to improper sales practices, distortion of sales, high pressures on sales tactics.

In the case of risks from employees, any variation in the practice of human resources management must be taken into account. Thus, it must be considered whether the number of customers is affected by inadequate training of employees, whether the application of incorrect methods of operating services to the customer leads to inefficient general communication of the institution with the general public, if in case of loss or unavailability of employees business continuation plan, if the performance indicators and the staff remuneration are adequate to measure the performance of the institution, if the internal provisions regarding the employees' behavior are observed.

At the level of procedures, the risk appears in the form of inadequate procedures and control of reporting, monitoring and decision making, organizational deficiencies, inadequate procedures in information processing, errors in the process of recording transactions, technical deficiencies in the computer system or risk measurement due to poor documentation. due diligence, problems arising in the execution, completion of the establishment of transactions. Thus, the risks resulting from the inability or improper functioning of one's own processes or systems must be monitored. The extent to which the processes and systems used meet the legislative requirements and a business continuity plan should be highlighted if the processes or systems are unavailable or destroyed, which must contain information on systems, personnel, service providers and others. values.

At the technical level of the procedures, the risk arises in the form of inadequate implementation or absence of instruments for measuring operational risk, and at the technological level in the form of computer system deficiencies and system error, hacking, theft, interruption or any other destruction of technology, data or information, appeared in the form of losses related to error, hacking, inadequate system maintenance. Thus, the aim was to introduce an IT system that would perform automatic data processing, as it reduces exposure to the risk of human error and can control the right of access to the system, but will increase this must be taken into account to the extent that information technology requirements are taken into account in the business plan, the structure of the organization and reporting of IT operations and the degree of compliance, development and maintenance of the IT system for operational departments.

Greater attention must be paid to information security, by access only by authorized persons to ensure the accuracy and integrity of data and their proper processing. Particular attention must also be paid to external sources, as inaccurate or inadequate information can expose the institution to significant operational risks, which may even affect the institution's solvency or lead to an inadequate approach to customers and thus to a lack of confidence in the institution. banking market.

Currently in Romania, each financial institution has its own risk profile, determined by identifying the activities generating operational risk events. Thus, internal fraud can occur by carrying out activities of intentional preparation of statements and reports aimed at bank fraud, misinformation, intentional or unintentional customers, theft of property, accounting in the absence of supporting documents, incorrect analysis of customer activity that may generate bank losses and unauthorized alteration of information. Also, external fraud can occur by carrying out robbery or robbery at the ATM or the institution's counter, the introduction of counterfeit monetary instruments, unauthorized entry into the computer system harming both the institution and customers and counterfeiting documents following the fraud of the institution.

Losses may occur due to staffing conditions and job security, due to disciplinary misconduct of staff or the absence of important employees, assignment of tasks far beyond the capabilities of employees. Losses can also occur due to poor customer, product and business practices by failing to identify money laundering operations, disclosure of duties, failure to verify customer data, non-compliance with maximum exposure limits for groups and more. Losses may occur due to interruption of activity or malfunction of systems caused by computer system virus, incorrect data transmission in electronic format and malfunction of computer applications that cause data loss, losses due to treatment of customers and counterparties, such as data processing related to them and losses due to the security of the electronic banking system manifested by unauthorized activities performed in the system.

Conclusions

From the study carried out by the authors and presented in the article Specific elements related to the banking operational risk, a series of theoretical and practical conclusions can be drawn. Thus, a first conclusion is that risk is the main phenomenon faced by the banking system, being the source of losses or even bankruptcies due to unforeseen difficulties encountered in carrying out activities. In the same vein, the profitability of any credit institution depends on how it manages bank risk and its ability to predict uncertainties. Therefore, special attention must be paid to risk management, which must be a sustained activity of any bank, ensuring the correct application of risk management systems.

Another conclusion is that operational risk is the risk of direct loss resulting from operational failure covering regulatory losses, losses resulting from system failures, input errors or resulting from increased expenses that affect the profitability of operations. In the same vein, operational risk is the risk of indirect loss given its effect on other risks.

Operational risk involves financial losses that are not included in market risk, credit risk or strategic business risk and arises due to internal or external events, which could not be prevented by corporate governance, internal control, systems, policies, organization, ethical standards or other elements of control and standards of the institution. We also conclude that losses caused by market or credit risk are materializations of operational risk.

Quantifying operational risk without true accuracy can create moral hazard, as it creates false accuracy and the impression that its sizing is specific to the institution's management and thus management can diminish their vigilance, thus creating an environment in which losses can easily occur.

Last but not least, another conclusion from the study is that operational risk can be broken down into operational risk of failure, which is caused by failure of personnel, processes or technology, and strategic operational risk arising from environmental factors such as competition, political and regulatory regimes, disasters and other factors beyond the control of the institution.

A final conclusion is that due to the size and volume of current financial market operations, which positively influence the volume of transactions that are processed and consequently change and operational errors and failures and therefore the associated risk, it is absolutely necessary to pay more attention sound management of operational risk, as well as its inclusion in the internal process of the institution.

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