

STUDY OF THE SINERGY EFFECT OF USING ACCOUNTING INFORMATION IN THE PROCESS OF LENDING AND RISK MANAGEMENT IN BANKS

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Summary

This article is a follow-up on the authors' research on the relationship and interdependence between accounting information, accounting analysis, and credit risk management in banks. Analysis of the quality of the loan portfolio, as well as bringing the key trends in the management of credit risk out are processes that need to be modernized, given the dynamics of economic phenomena in the banking sector. The purpose of this study is to present procedures for accounting analysis and credit risk assessment, and recognition of expected credit losses corresponding to the philosophy of IFRS 9 Financial Instruments.

Key words: banks, credit risk, accounting information, impairments for credit losses, IFRS 9 Financial Instruments

JEL: G21, M40, M48

1. Bank credits in economic literature

Credit is an economic category that has been known since ancient times. Its name derives from the Latin "credere", which means faith, trust, and "creditum" means loan, debt. This part of the paper focuses mainly on the study of the evolution of the definitions of "bank credit" in the economic literature. An analytical review of selected theoretical works has been done that determine credit as an economic category (Table 1).

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Table 1. Credit definitions

<i>Wagner (1867)</i>	Credit is a private business relationship or a voluntary provision and receipt of economic benefits between different persons based on trust of one party for the later satisfaction by the other party.
<i>Rosher (1878)</i>	Credit is considered as a voluntary assignment of the right to dispose of foreign goods against the promise to repay their equivalence together with the interest due.
<i>Recktenwald (1987)</i>	Credit is considered as a form of acquisition of additional funds, of additional purchasing power through the temporary use of foreign capital.
<i>Stiglitz and Weiss (1988)</i>	Bank credits are a "special commodity" that can be created "out of thin air" or "ex nihilo", as well as disappear with a sudden change in the confidence of both parties in current and potential credit agreements. This makes credits difficult to predict, but their impact on the economic activity is clearly and more easily determined.
<i>Daniela Feschiyan (2000)</i>	The nature of credit may be expressed as "the commercial bank's lending of rights over a particular monetary resource in favor of the borrower". Along with the transmission of these rights, however, the transfer of a number of obligations and responsibilities set out in the terms of the credit transaction is observed.
Stoyan Stoyanov, (2008)	Bank credit is presented as a "technical and organizational form for carrying out active banking operations, through which the free capital of banks is distributed, provided and used". The primary requirement for a fixed rate of return and interest on the credit determines its meaning of cash receivables from certain persons (borrowers) at the amount of the sum provided plus the interest due.
Nebenius (2011)	Credit is defined as trust that is related to a promise whereby a person undertakes to make future payments against monetary values.

The above definitions of the nature of credit show that for some authors trust comes to the fore as the main manifestation of credit (Nebenius and Wagner), and for others it is a mechanism for the development of production opportunities and gaining further production power (Recktenwald). Third group of authors introduce *interest* as an integral part of credit, as its price, and replace the element of trust with the element of promise (Daniela Feschiyan, Stoian Stoyanov, Rosher). In a report named "New Interpretation and Methodological Specifics of the Keynesian Approach to Interest Rate Analysis" Ivaylo Beev (2005) presents *a new approach to the analysis of the nature of interest rates* that is derived from the work of John Maynard Keynes "General Theory of Employment, Interest, and Money", namely:

- a. "remuneration for liquidity separation;
- b. underlying psychological nature;
- c. the percentage of exceeding the price of an amount agreed for future delivery over its immediate delivery price;
- d. monetary phenomenon and the receipt of interest is a result of the scarcity of capital;
- e. is predominantly determined by monetary mass and the propensity for liquidity;
- f. the price that balances the desire to maintain wealth in the form of cash availability with the existing cash availability;
- g. the strict distinction between optimal and neutral, and nominal and real;
- h. influenced in two ways by open market operations, etc."

From the analysis of empirical studies that parametrize credits, it can be concluded that credits gain popularity among macroeconomic analysts seeking a reliable explanation of the general economic processes in which the financial and real sectors interact in a complex relationship (Petar Peshev, 2014). As part of a larger study on the real-financial sector relation in Bulgaria, Statty Stattev (2009) proves that since 1997 private and domestic credits have had a positive influence on the variables for economic activity, with bilateral long-term causality present, apart from being reason for economic growth, credits are also a consequence of it.

2. Role of accounting analysis in banks' credit activity

The theoretical characterization of credit as a technical and organizational form for performing active banking operations defines it as a specific *category of financial asset of the bank* from which it derives an economic benefit (income) in the form of interest. Therefore, the process of crediting raises the need for providing information to effectively evaluate, analyze, manage and track its impact on the financial result of the bank.

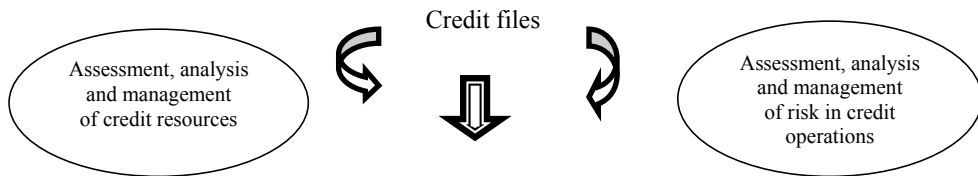
Accounting is the main source of information for analyzing the credit risk and assessment of bank solvency. The most important tasks of accounting analysis to effectively assess, analyze and manage the credit portfolio of banks are (Feschiyan, 2005):

- a. Creating an effective mechanism for a smooth crediting process.
- b. Providing necessary up-to-date information of a sufficient volume and exact structure on the status and change in credit relationships.
- c. Providing necessary and sufficient information on the financial condition of borrowers, on their performance, utilization and redeeming of credit resources, on the existing and predicted credit risk, on assessment and liquidity of security.
- d. Providing information on the volume and timeliness of funds attracted by commercial banks as a prerequisite for credit operations.
- e. Providing information on the structure of assets of commercial banks and disclosure of the relative share of provided credits in size, terms, sectors and economic industries, and financial security.
- f. Providing information on the return, risk and profitability of credit operations of banks.

By providing information on the status and change in credit relationships and financial condition of the borrowers, on the security and credit risk, the necessary data for improving the model of pricing of credit proposals, bringing analytical indicators of the financial condition of the borrowers, analysis of cash stream and full implementation of proposals for improving the methods for managing the credit portfolio are also provided.

The creation of an effective mechanism for the normal functioning of the crediting process involves complete interdependence between the credit policy and the adopted accounting model in the bank. It is necessary that bank accounting provides information on the credits of each bank customer, systematized per various criteria such as credit term, degree of security, purpose of the credit, sector and industry affiliation of the borrower, residence (resident and non-resident persons), etc.

In order to fulfill its purpose, however, the accounting information has to satisfy the requirement of authenticity. The latter can be ensured by a precise control over the incoming data stream through which the accounting system is being informed, a reliable current control in the process of creating accounting information by this system and effective follow-up on the outgoing information it has already created. Given these limitations, the accounting analysis of credit operations becomes essential for banking. The role of the accounting analysis of the credit activity of banks can be expressed in two ways (Figure 1).



Accounting information base

1. Data from synthetic accounts for credits granted by borrowers
2. Data from analytical accounts for credits granted:
 - by degree of risk;
 - by terms and size;
 - by sector and industry affiliation of the borrower;
 - by degree of security;
 - by interest rates.
3. Data from off-balance sheet accounts to track written-off but outstanding credits.
4. Data from off-balance sheet accounts to report security–borrowers with analytical tracking:
 - by security type;
 - by liquidity degree;
 - by place;
 - by BGN equivalence and possible changes in the assessment given.
5. Data from the accounts reporting income from interest and fees on credits, diversified by clients.
6. Accounting reports on changes in interest rates, defaults on principal and interest due, and periodic revaluation of foreign currency credits.
7. Financial statements of the borrower and any guarantor.
8. Audit reports on the financial condition of the borrower and any guarantor.
9. Financial prognostications on the accounting data for the future performance of the borrower and any guarantor.



Accounting analysis for credit risk assessment and management

1. Accounting analysis of the financial position of the borrowers and tracking the trends of its development over time.
2. Analysis of cash flows of borrowers and tracking the trends in their development over time.
3. Risk assessment of credit event and the adoption of adequate methods for its management.

4. Preparation of reports on the financial condition of the customer:
 - analyzing its credit exposure and changes in it;
 - existing problems with the credit return;
 - the state of credit security;
 - credit risk assessment and forecasts for its future development.
5. Analyzing the size and sufficiency degree of provisions (impairments) for credit risk by individual customers, by sectors and tracking these trends over time.
6. Preparation of summary assessment of the state of the credit portfolio by sectors and industries.
7. Comparison of granted credits with established credit limits and reporting for possibly exceeded limits by sectors, industries and individual borrowers.
8. Analysis of the adopted credit policy regarding credit risk management by sectors, industries and correcting its problematic aspects.

Figure 1. Accounting analysis of credit activity (an improved version of Daniela Feschiyan's model for accounting analysis of credit activity in 2000)

The role of accounting analysis for the effective evaluation, analysis and management of credit resources comprises the possibility for decision making with regard to current credit in accessible quantities. This includes data presented for the implementation of good analysis of credit resources as a whole (so-called credit portfolio). This data is contained in the financial accounts for the extended credits. Therefore, it is very important to adopt rules and requirements for reflecting credits in specific financial accounts and rules for their analytical reporting by several criteria (by types of credits, terms, size, sector and industry affiliation of borrowers, types of material security, residence (resident and non-resident)) (Feschiyan, 2000). The development of specific rules for reporting certain specific credits—big credits, interbank credits, credits of related parties—is also necessary. The development and adoption of proposed rules will increase the richness and usefulness of the information in a synthetic and analytical form. For example, when analyzing the credit portfolio, the database used will be accounting information in a synthetic form. The analytical structuring of information from credit accounts is a good database for tracking credit resources by industry sectors and by individual types of credits and borrowers. Accounting information in a synthetic and analytical form is a starting base for making accounting analyzes and assessments, and for the overall credit risk management. There is an interrelationship and interdependence between the process of lending, accounting analysis, accounting data and credit risk assessment and management in banks (Figure 1).

Accounting data is also the base for tracking, analysis and classification of income from bank credit activity in the form of interest, fees, etc. The latter is

particularly important in studying the profitability of the resources provided. Accounting data for credit costs in general, by certain economic sectors and by individual types, plays a large role in the analysis of the profitability of the bank's credit activity. This raises the need to develop a comprehensive methodology for calculating the cost of credit operations of commercial banks and their comparison with the returns from them. A prerequisite for the development of such methodology is the perception of a method for reflecting the costs of credit operations of banks. The thesis of Daniela Feschiyan (2005) that in banking theory and practice it is appropriate to use three methods of cost allocation is adopted:

- the method of direct distribution;
- the method of co-management;
- incremental method of distribution.

The method of direct distribution of costs uses only direct costs and totally excludes overall management costs. Many banks apply this method when making decisions on their credit policy. According to Sherman J. Maisel (2006), the exclusion of administrative and management costs is justified by the fact that they do not directly influence the specific financial activities of banks.

The method of co-management accounts for only specific banking costs in a number of equations that aim their distribution between bank departments. This method is very difficult to apply because of its great commitment with complex mathematical operations (Peltzman, 2002).

The application of the incremental method is related to the exact delineation of the activities that are carried out by the respective banking department, as distribution is carried out according to the number of services of each department. This makes it possible to exclude interaction between departments.

For the provision of accounting data and calculating the cost of credit operations of commercial banks, it is recommended that combined approach in their reporting should be applied. The direct method is recommended for the distribution of direct costs and the incremental method is recommended for indirect costs.

The role of accounting analysis in credit operations to effectively evaluate, analyze and manage risk is that the data provided by the accounting system gives great opportunities for reduction and therefore more effective risk management of credit risk. The latter was presented in the scheme tracing the relationship between accounting data and the analyzes for credit risk management. In order to provide such information, Daniela Feschiyan (2000) offers in her thesis specific rules for off-balance reporting of securities on granted credits, which contain requirements for the qualities of the securities by type, volume, degree of liquidity, place of storage. To optimally measure the impact of credit activity on banks' liquidity, it is useful to develop a system of procedures and measures

to write off overdue liabilities or transfer the risk exposure to a lower-risk group at the appropriate prerequisites. It can be summarized that the applied models for impairment of financial assets within the meaning of the applicable accounting standards are decisive in terms of the level of risk borne by the banks.

3. Credit risk as the subject of accounting

This part of the paper focuses on the systematization of the credit risk definitions of foreign and Bulgarian researchers, the Basel Committee on Banking Supervision and the International Accounting Standards Board, which are presented in the table below. The aim is to highlight the financial and accounting aspects of credit risk as well as to emphasize on the important role of accounting information in the process of its management.

Table 2. Definitions of credit risk

<i>Basel Committee on Banking Supervision (1997)</i>	Credit risk is defined as "the failure of the counterparty to perform their obligations in accordance with the arrangements".
<i>IFRS 7 Financial Instruments: Disclosure</i>	Credit risk is defined as "the risk that one party to the financial instrument will cause financial loss to the other party by failing to pay the obligation".
Daniela Feschiyan (2000)	In the broad sense of the term, credit risk can be defined as the most fundamental of all types of risk for banks and a main cause for their operating losses. The justification for this definition is the perception of lending as the main activity of banks and therefore the definition of credit operations as their main revenue sources.
Daniela Feschiyan (2005)	Credit risk can be defined as an "element of the bank's accounting policy as it meets the following criteria: there is enough likelihood that the bank will acquire or deprive of economic benefits under its influence; as an accounting entity, credit risk can be reliably measurable".

<i>Emilia Milanova (2011)</i>	Credit risk is considered as "the current or potential risk for income and capital due to default on the part of the debtor or due to a decrease in the value of part of the bank's assets provided as loans, including when the actual return on these assets is significantly lower than expected".
<i>H. Greuning, Sonja Brajovic Bratanovic (2009)</i> <i>Price Waterhouse (1996)</i>	Credit risk can be defined as "probability or potential opportunity to incur losses and damages from non-performance or improper performance of contracted obligations (cash flows) between the creditor and the borrower".

From an accounting perspective, the credit risk assessment in banking is considered as an objective necessity stemming from the *precautionary principle* set out in the current Accounting Act implying "the assessment and reporting of the alleged risks and the expected possible losses in the accounting of business operations aiming real financial result". ***It is argued that credit risk is linked to the volatility of cash inflows resulting from the credit losses incurred and the security deficiency.*** This feature reflects the financial and accounting aspects of credit risk and is therefore considered to be operational for the purposes of the survey.

4. Procedures for analysis and assessment of credit portfolio quality in banks

The main source of information for the analysis and evaluation of the quality of the credit portfolio of banks is the accounting data created for:

- the credits granted;
- the credits repaid;
- the actual amount of credits granted to a certain point;
- the contracted credits that have not been granted yet;
- the securities on the credits granted;
- the received interest income from credits granted;
- the depreciation degree of risk exposures under the applicable accounting standards.

The way of obtaining this information is presented in Table 3 (This is an updated version of Daniela Feschiyan's model from 2010):

Table 3. Information sources for analyzing and assessing the quality of credit portfolio in banks (Feschiyan, 2010)

Information source for analysis and evaluation of the credit portfolio	Way of obtaining
Information on credits granted	Debit turnover on credit accounts in banks
Information on credits repaid	Credit turnover on credit accounts in banks
Information on the actual amount of credits granted to a certain point	Debit balances on credit accounts in banks
Information on contracted credits that have not been granted yet	Credit balances on accounts of subgroup 925 "Off-balance sheet liabilities"
Information on securities of credits granted	Debit balances on accounts of group 91 "Foreign assets received as security" and some accounts of group 94 "Contingent receivables"
<i>Information on received interest income from credits</i>	Credit turnover in the accounts of subgroup 721 "Interest income"
Information on the amount of estimated credit losses	Debit turnovers on accounts from subgroup 622 "Expenses for provisions (impairments) for credit risk" and/or Credit turnovers on accounts from subgroup 251 "Corrective for estimated credit loss for 12 months"; subgroup 252 "Corrective for estimated credit loss over full term"; subgroup 253 "Corrective for loss of purchased or originally developed financial assets with credit impairment"; subgroup 254 "Corrective for loss of trade receivables, contract assets and lease receivables"

The main procedures for analyzing and assessing the credit portfolio of banks are:

- Procedures for checking the correct framing of credit files – including checking the availability of full documentary support on credit operations in negotiating, authorizing, securing, granting and repayment of the credit portfolio.
- Procedures for checking the reclassification and restructuring of the credit portfolio – including verification of compliance with statutory requirements

and interbank rules for reclassification and restructuring of the credit portfolio.

- Procedures for checking the security of credits—including checks of the availability of securities, and the type, nature and liquidity of these securities, their registration and insurance under the established statutory and interbank policy.
- Procedures for checking domestic credits – including checks for compliance with the regulatory requirements and restrictions on domestic credits.
- Procedures for the inspection of large credit exposures – including procedures for detecting, assessing and analyzing of large credit exposures, and also checks for compliance with regulatory requirements for large exposures in banks.
- Procedures for analysis of the structure and dynamics of credit portfolio – including procedures for analyzing credit size, maturity, sectors, industries and residency of borrowers.
- Procedures for assessing and analyzing the classified risk exposures and impairments for credit losses.

The accounting analysis of the quality of the credit portfolio can be made in three areas:

- Examining the structure of the credit portfolio.
- Bringing indicators for the quality of the credit portfolio;
- Analyzing off-balance sheet credit risk.

The examination of the structure of the credit portfolio reveals the overall tendency of the bank to take risks (its risk profile). By this direction of accounting analysis, we can trace the level and trend of credit risk and to make realistic predictions about its impact on profitability, capital position and liquidity of the bank in a static and dynamic aspect.

The structural analysis of the credit portfolio includes the following procedures:

- Disclosing the relative share of credits in the total amount of bank assets;
- Structuring the credits according to the area of operation and sectoral affiliation of the borrower, and determining their relative share in the total amount of credit portfolio.

The structural analysis for finding the relative share of credits in the total amount of bank assets contributes to determine the level of credit risk by comparison with internationally adopted norms and practices.

Analyzing the field of operation and sectoral affiliation of the borrower improves the ability to manage the credit portfolio by shifting credit resources from one field of the economy to another, from one branch to another. The latter is an opportunity to optimize management decisions.

The derivation of indicators for the quality of credit portfolio is related to the classification of credits by degree of risk, while achieving a close connection with

the degree of security and the liquidity of the security. On this basis, it is possible to calculate ratios for problem credits and ratios for classified credits.

The ratio of problem credits can be seen by finding the relative proportion of the gross value of credits with arrears in all gross assets of the bank (assets before provisioning).

The ratio of classified credits can be presented as the relative proportion of all classified credits in the gross assets of the bank (assets before provisioning).

To achieve more accurate estimates of this analysis, it is advisable to track the levels and time trends in both ratios. The latter are carriers of information about the level of the bank credit risk.

In the next steps of the accounting analysis of the quality of the credit portfolio, the factors that have an impact on the levels and changes in those ratios should be defined. For example—composition and structure of problem credits, influences caused by sectoral and field concentrations of credit resources, concentrations by individual customers, domestic credits, etc. It is necessary to pay attention to the individual classification groups.

The extended credits are classified into risk groups depending on the capabilities of borrowers to service correctly their obligations to the bank. For the purposes of analysis, ratios should be drawn to show the share of individual classification groups in the total credit portfolio of the bank, as well as to trace the reclassification (so called migration) of credit resources. On this basis, it is necessary to detect the trends – improvement or deterioration in the quality of the credit portfolio and linking them with any changes in the growth of the credit resource provided, as well as the writing-off or restructuring of credits.

Analyzing off-balance sheet credit risk includes procedures like those in analyzing the quality of the credit portfolio. It is necessary to reveal the volume and trends of classified off-balance sheet liabilities. When changes are seen, it is necessary to seek causes. The most important part of the analysis is the disclosure of the adequacy of the provisions (the extent of their sufficiency) according to the risk profile of the bank. The latter can be achieved by displaying the ratio between provisions for contingent liabilities and all contingent liabilities incurred by the bank.

By reliably analyzing the quality of the credit portfolio based on actual and prognostic condition, it is possible to achieve a more effective management of credit risk in the banking system. The current trends in bank management are directed towards this target. The goal is the development of such analytical, control and management methods by which it will be possible to immediately respond to market changes.

5. Provisions (impairments) for credit risk

As already mentioned, lending bears certain risks of losses to commercial banks. A number of factors influence the level of risk on the credit resource provided by banks. Such are (Feschiyan, 2005):

- The presence of a high share of overdue credits;
- Concentration of credit resources in customers of the same industry or region;
- Concentration of loans in economically-linked undertakings;
- Increase in the relative share of loans to customers compared to the size of their deposits;
- Large loans provided to customers of a size that is close to the maximum allowed for the bank;
- Special loans designed to serve the paying process, which have the nature to resume;
- Poorly secured loans;
- Renegotiated loans due to the deteriorated financial condition of borrowers, etc.

The inherent credit risk also belongs to the above-mentioned factors that affect the risk in lending (Feschiyan, 2000). Therefore, to reflect the risk of lending activities and the timely recognition of potential losses arising from them, the objective necessity of provisioning (impairment) of credits arises. In order to fulfill their purpose—protection against risk—provisions should have the quality of sufficiency. It is necessary for each bank to set aside reasonable provisions for credit losses applicable to all categories of loans, making periodic deductions from operating costs. "The amount of provisions is considered reasonable when provisions for credit losses, incl. the current position is judged by the bank's management as sufficient to cover the expected loss from the credit portfolio". (American Institute of Certified Public Account Bank Audit, USA, 2008).

When deciding on the need for provisioning and application of appropriate approach in applicable accounting standards, the thorough evaluation and analysis of the loan portfolio is required, its evaluation and structuring in certain risk groups defined by the commercial bank, with the respective coefficients for necessary provisions. The main tasks in this random review of the loans granted are:

- Defining the total amount of credit resources;
- Structuring the granted loans by main types and analyzing their volume and trends in its changing;
- Detection and removal of problem loans, which have accumulated arrears in principals, interests, fees, etc.;
- Structuring the problem loans discovered by the periods of late payments;

- Discovering and structuring granted loans that have brought losses for the commercial bank or have been subject to renegotiation and restructuring;
- Discovering and structuring concentration in lending, by the following criteria:–the type of credit;–the industry;–the region;–the economic connectivity of borrowers;
- Identification of the specific economic conditions in the country on a macro and micro level, as well as the major trends in the international economic conditions;
- Establishing the nature of the credit exposure of the bank, i.e. tracking the ratio between the total amount of granted loans and number of borrowers. This determines whether the relatively small amount of loans compared to the large number of borrowers dominate or there is the reverse higher-risk tendency, and namely–a small number of borrowers with high-valued loans;
- Establishing the nature (in terms of liquidity) and type of securities on loans;
- Determining the ability of securities to cover the provided credit resource, i.e. ratios between the fair value of securities and the amount of granted loans.

The evaluation of the necessary provisions will be more impartial if you take the approach of assessing not only the present implementation of commitments on loans, but also make a *predictive analysis* to assess the future performance of credit commitments. Here we are based on the theory of Daniela Feschiyan (2000) for two-sided presentation of this assessment:

- assessment of the future performance of credit obligations of the borrowers under the existing current conditions of business;
- assessment of the future performance of credit obligations of borrowers under forecasts for the future development of their activities.

Predictive analysis is useful for reporting of risk associated with the specific activity of borrowers and the trends in its future development. Moreover, this analysis provides a very good opportunity for multivariate in determining the conditions. With its help, the creditor bank may obtain an estimate of necessary provisions (impairments) when perceiving optimistic, pessimistic and realistic options for development of the activities of the borrower.

It is essential that the creditor bank should take into consideration the extent and liquidity of the loan security when determining the necessary and sufficient amount of provisions (impairments). Reporting on the evaluation of the security and its degree of liquidity may be of a prognostic nature. To this effect, the information from the analytical accounts is used built on the following criteria: the type of security; the degree of liquidity of security; the nature of security,

i.e. to what extent the bank can be sure it will fulfill its purpose; relative share of security against credit exposure.

With the proposed model for individual assessment of granted loans, after aggregating the data, an overall assessment of the provided credit resource is obtained. The latter gives the real possibility of achieving the objective of the analysis, namely structuring of loans per the risk categories accepted by the bank and after applying the relevant coefficients to get an objectively accurate and fair assessment of the amount of provisions on loans that have the quality of sufficiency.

Banks in the EU are about to introduce a new standard—IFRS 9 *Financial Instruments* which changes the organization and methodology of accounting for reflecting financial assets, and in particular the recognition of impairments (provisions) for credit risk. ***A fundamental change in the newly adopted accounting standard is the concept of recognizing and measuring expected credit losses, implying new principles and modeling techniques in the context of the accounting rules for credit risk impairment.*** In addition, it should be noted that the behavior of banks in the credit process will undoubtedly depend on the attitude of regulators to the new requirements. In the context of policies and directives established by regulators, banks need to ensure an adequate assessment of their substantial risks while strongly sustaining high quality own capital while at the same time asserting a stable liquidity position under conditions of potential stress and unfavorable market conditions. According to the regulator of the national banking system and in particular the systemically relevant banks (under Basel III), reliable and effective banking supervision, together with an adequate macroeconomic policy, are crucial for the financial stability of each country. A study devoted to analyzing the effects of changes in the regulatory environment in the monetary sector, Ekaterina Sotirova and Ivaylo Beev present a retrospective analysis of the use of the minimum reserves in Bulgaria as a measure for regulating the banking sector under the conditions of a currency board while simultaneously systemizing and exposing a number of negative effects which cast "doubt on the effectiveness of the restrictive measures applied by BNB" in the cases of "reinsurance against credit or other type of risk". Under the terms of a currency board, a crucial condition for banking stability is the confidence in the Central Bank's ability to manage systemic risk. The latter dexterity is manifested in the adoption of an adequate, common for all market players rules and the firm adherence to them". Regulating and supervising the credit institutions' activities aims to maintain the stability of the banking system and protect depositors' interests. In line with this, the new Basel 3 framework includes an improved set of measures for more and better quality capital, unlike the previous regulatory frameworks. A new element of the reform is also the

introduction of a minimum leverage requirement, taking into account the total bank assets and balance sheet items.

6. Accounting of impairments for credit losses

In banking, the issues of impairment of financial assets are of crucial importance in terms of the level of risk borne by banks. Impairment is associated with the existence of conditions that the asset's carrying amount is not restored. In other words, the measurement of the irrecoverable value of a financial asset is called impairment.

The process of final approval of IFRS 9 *Financial Instruments* ended in the last quarter of 2016. The standard was adopted by the European Commission with Regulation 2016/2067 of November 22, 2016 and published in the Official Journal, L 323 of 29.11.2016, which act upheld the decision for the mandatory application of the standard for all EU member states for accounting periods beginning on or after January 1, 2018 and will succeed the current IAS 39 accounting standard for the recognition and evaluation of financial instruments.

IFRS 9 *Financial Instruments* requires from banks to classify their financial assets in the following groups:

- Financial assets measured at depreciated cost;
- Financial assets measured at fair value in profit or loss;
- Financial assets measured at fair value in other comprehensive income.

Based on the philosophy of the standard, all financial assets of the bank are subject to impairment testing, which are subsequently measured at amortized cost. A financial asset is measured at amortized cost subject to the following requirements:

- The financial asset is held within the business model, the purpose of which is to hold assets in order to collect the contractual cash flows; and
- According to the contractual terms of the financial asset, cash flows arise on specific dates which are only principal payments and interest on the outstanding amount of the principal.

The current approach to recognizing credit losses in banks is targeted not to the recognition and measurement of actual losses but to models based on transparent methodologies that are related to the ***expected losses*** in the existing loan portfolio for the whole of its life. A basic methodological moment for the correct understanding of the issue of expected credit losses in the banking sector is their treatment under the terms of IFRS 9 *Financial Instruments*. Following the provisions of the standard, the emphasis is on:

- Introducing a three-stage process for formation of expected credit losses (a ***common approach for recognizing expected credit losses***), depending on the extent of deterioration in the credit quality of the financial asset after

initial recognition. **First stage**—refers to financial assets for which there is no significant deterioration in credit quality after initial recognition. Impairment is based on *expected credit losses for the next 12 months*. **Second stage**—includes financial assets for which there is a significant deterioration in credit quality after initial recognition without objective evidence of impairment. Impairment is formed based on *the expected credit losses for the entire remaining life of the asset*. **Third stage**—includes financial assets for which there is objective evidence of impairment as of the date of the financial statement. Impairment is formed based on the expected credit losses for the entire remaining life of the asset. Expected credit losses that arise from all possible cases of default during the expected term of a financial instrument. The boundary between the two stages—‘*expected credit losses for 12 months*’ and ‘*expected credit losses for the lifetime*’—is based on the change in default risk during the expected life of the financial asset (resulting from a significant deterioration in credit quality), and not a change in the amount of expected credit losses. To make this assessment, the bank compares the risk of default on the financial asset as of the date of the financial statement and as of the date of initial recognition, based primarily on reliable and timely information. In the process of identifying the default risk, the bank may apply the default definition used for regulatory purposes. Regulation 575/2013 requires each banking credit institution to recognize a non-performing exposure based on the following two conditions or at least one of them: first, the debtor is past due more than 90 days (or 180 days for exposures secured by residential property or commercial real estate property of a SME) for a substantial part of their credit obligation, and second, it is unlikely that the debtor will fully repay its credit obligations.

- A **simplified approach for recognizing expected credit losses** is applied in respect of trade receivables, contingent assets arising from transactions that are within the scope of IFRS 15 Revenue from contracts with customers and lease receivables. The impairment is formed based on the expected credit losses for the entire remaining life of the asset, i.e. the possibility of calculating expected credit losses for the next 12 months is eliminated.
- The expected credit losses for purchased or originally created financial assets with credit impairment are recognized.

In conclusion, it is assumed that by applying the EL approach predicting expected loss from banks is based on a wider range of information in the following three areas:

- **on past events**, such as historical experience from the management of the bank;

- ***on current conditions***, including functioning market conjuncture, specific environmental conditions in which the company operates, specific economic conditions in the country on a micro and macro level, and basic trends in the international economic conditions;
- ***reasonable and supportable forecasts*** concerning the collection of future cash flows associated with the financial instrument.

Conclusion

The economic crisis of 2008, which has become a global financial crisis, is a turning point for financial institutions and particularly for the banking sector. The current declining trend of credit quality leads to an increase in credit risk impairment, which in turn results in a decrease in the financial result and has a negative impact on banks' capital adequacy. The adopted priority for early identification and recognition of reserves against credit loss contributes to reducing the accumulation of losses in banks, limiting overestimation of bank regulatory capital and raising the effective market discipline.

The provisions of the new accounting standard–IFRS 9 *Financial Instruments* in the Recognition of Expected Credit Loss section are in full accordance with the requirements of the Accountancy Act for "true and fair presentation of the property and financial position, and financial performance of the enterprise, cash flows and capital". Prudence is a key accounting principle set out in the applicable Accounting Act, which implies "the assessment and reporting of the assumed risks and expected losses in the accounting of business operations in order to obtain a true financial result". The objective is that assets and liabilities, revenues and expenditures are neither overestimated nor undervalued, but presented to the greatest extent with their objective value. Recognition of expected credit losses for 12 months, a stage of the three-stage impairment model, will be offset by the recognition of interest income in profit or loss in full size, i.e. on the gross carrying amount rather than the net book value (after deducting the corrective for loss). As a result, the recognition of expected credit losses will substantially eliminate the possibility of overestimation, respectively undervaluation, of costs and income for overall distortion of the outcome of the functioning of commercial banks and the quality of the loan portfolio.

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