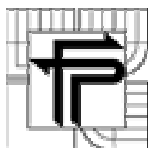

Credit Monitoring – a Core of Credit Risk Management: Theory and Experience

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Abstract

Purpose of the article Purpose of the article is to identify credit monitoring as a keystone of credit risk management in banks. CRM is widely discussed in scientific literature and in reports of institutions undertaking credit risk or supervisory bodies. However majority of such investigations are based on implementation of numerous quantitative or qualitative methods used for credit risk assessment before granting a loan or for credit portfolio risk management. There is a lack of information or investigations made on estimation of the need of credit monitoring in credit risk management process.
Scientific aim Scientific aim is to structure the early warning signs that reflect the condition of credits.
Methodology/methods The paper is based on analysis and resumption of various scientific and professional articles related to organization of credit process in banks. It combines results of assessments of credit monitoring importance in credit risk management process made by theoretical studies as well as investigation of experts.
Findings Finding of the article is presentation of credit monitoring tools that should be applied for corporate (and individual) clients via modification of original credit agreement.
Conclusions (limits, implications etc) Conclusion of the article is that credit monitoring is a keystone in credit risk management process. The purpose of credit monitoring is to detect in time possible worsening of the loan and to react (make changes in loan agreement). The simplest tool for credit monitoring is to identify early warning signs in time that could be assorted into four groups: EWS of business environment; EWS with regard to management, EWS regarding collateral, EWS in financial analysis. Limitation of investigation is impossibility of evaluation of importance of monitoring process in practice except investigation of experts (employees) directly responsible for credit business.

Keywords: Credit monitoring in banking, credit risk management, credit principles, early warning signs, monitoring tools.

JEL Classification: G21, G32

Introduction

The general aim of credit risk management is to reduce the possibility of potential losses with regard to issued loans. Loans are provided according strict criteria; those criteria must cover information about the client, loan structure and the purpose, repayment source and collateral. After making an analysis each client gets score and loan group. Due to differences in world legal systems, there is no one best policy. Basic requirements related to evaluation of a loan are provided in Basel II principles[1].

The financial and economic downturn which was currently in place all over the world increased the importance of credit risk management. One of the main reasons why the crisis occurred in 2007 was mismanagement of credit risk in banks, which might came from misunderstanding of the need to scrutinize all credit risk related factors. Loans make up the biggest part of bank's total assets: at the end of 3rd quarter 2010, covered around 72,4 % of total assets of banks operating in Lithuania. Since the end of 2008, the overall loan portfolio in commercial banks has been decreasing constantly and at least in several coming quarters it will not grow (Nausėda and Tauraitė, 2010). Banks made significant provisions during last some years (at the end of 3rd quarter 2010 they amounted 5 billion Lt), and most of the banks incurred losses as of 2009. Further more, the obligations of insolvent or reorganizing companies significantly increased up to 3.6 billion Lt at the end of 3rd quarter 2010 (The Bank…, 2010).

Banks now are blamed for their "reluctance" to lend, however the reason behind the lending caution is capital adequacy tensions but not the liquidity shortage. Fears of credit quality deterioration and likely losses limit the expansion of loan portfolio. Over this period of calmer crediting banks will have to reassess and revise business strategies, credit procedures, and customers' risk evaluation frameworks (Nausėda and Tauraitė, 2009).

The problem analyzed in the article can be defined as inefficient credit monitoring as a part of credit risk management process in a bank. The object of this article is the credit risk incurred by banks and the factors analyzed in the process of monitoring client's performance.

The credit risk can be understood in two main forms: firstly, it is a risk that the borrower will fail to fulfill obligations according to the loan agreement and secondly, it is a risk that the value of the credit granted will decrease and the income will be lower than expected (Santomero, 1997). This article focuses on the management of the first type of credit risk. To be more specific, only the factors and processes regarding corporate customers are chosen to be analyzed, as they make up the biggest part of loan portfolio in value and in risk terms as well, also due to the differences of risk monitoring in private and corporate customer segments.

1 The importance of credit monitoring

As it was already mentioned the goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintain-ing credit risk exposure within acceptable parameters or to minimize the losses. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk of individual cred-its or transactions (Basel Committee…, 2000).

"Maintaining an appropriate credit administration, measurement and monitoring process" is one of the four main areas presented by Basel committee's in the publication of 17 main principles of credit risk (Basel Commit-tee…, 2000). The main principles (8-13) in-clude the requirement that:

- Banks should have in place a system for the ongoing administration of their various credit risk-bearing portfolios;
- Banks must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves;
- Banks are encouraged to develop and util-ize an internal risk rating system in managing credit risk;
- Banks must have information systems and analytical techniques that enable management

[1] Basel III framework and how it promotes broader financial stability was presented in 3-4 November 2010 by Stefan Walter, Secretary General, Basel Committee on Banking Supervision, at the 5th Biennial Conference on Risk Management and Supervision, Financial Stability Institute, Bank for International Settlements, in Basel. The standards presented in this conference will be increased gradually between now and 2018 (Bank for…, 2010).

to measure the credit risk inherent in all on- and off-balance sheet activities;
- Banks must have in place a system for monitoring the overall composition and quality of the credit portfolio;
- Banks should take into consideration potential future changes in economic conditions when assessing individual credits and their credit portfolios, and should assess their credit risk exposures under stressful conditions.

The entire credit process is presented below (Figure 1). The credit monitoring normally starts from signing the agreement till forced sale or bankruptcy if the credit is pass due. Before granting the loan, the bank has to analyze and discern the credit risk. The quality of credit approval processes depends on two factors, i.e. transparent and comprehensive presentation of the risks when granting a credit on one hand and adequate assessment of the risks on the other (OeNB et all, 2004).

After granting the loan, the bank should monitor the customer's business activities closely, grasping the debtor's financial situation and other factors that influence the security of the loan. Various kinds of methods of risk assessment are implemented. A large amount of experience shows that the earlier the risk is noticed, the lower the rate of loss is. So the establishment of the pre-warning mechanism of credit risk is an important protective screen that takes precaution against the credit risk (Huang et all, 2005).

It can be stated that credit monitoring is a special, organized and continuous system related with collection, analysis, valuation and prognosis of borrower's activities and financial performance, that starts after the credit is granted and lasts till obligations are fulfilled. Credit monitoring is related to 'after credit de-cision' collection, analysis of information, and most importantly - identification of early warn-ing signs, and making sure the appropriate decisions are taken with regard to changes in the credit risk of a customer. The requirements for the quality of the credit revision during the credit monitoring are the same as of the evaluation of the credit being granted.

The credit risk early warning is a complicated process. It discovers and distinguishes the risk sources, risk scopes, risk levels and risk trends in advance through a variety of techniques, dealing with large-scale, complex and non-structural data (Huang et all, 2005).

There is quite limited amount of analysis and scientific research with regard to credit monitoring as such. In Lithuania, mainly Valvonis with some of his colleagues from Central Bank provided some articles regarding credit risk management in commercial banks in the periodical "Monetary studies" (Savickaitė and Valvonis, 2007; Valvonis, 2004; Valvonis, 2006a; Valvonis, 2006b). They covered most of the credit risk related areas such as credit risk modeling, laws, processes capital adequacy etc.

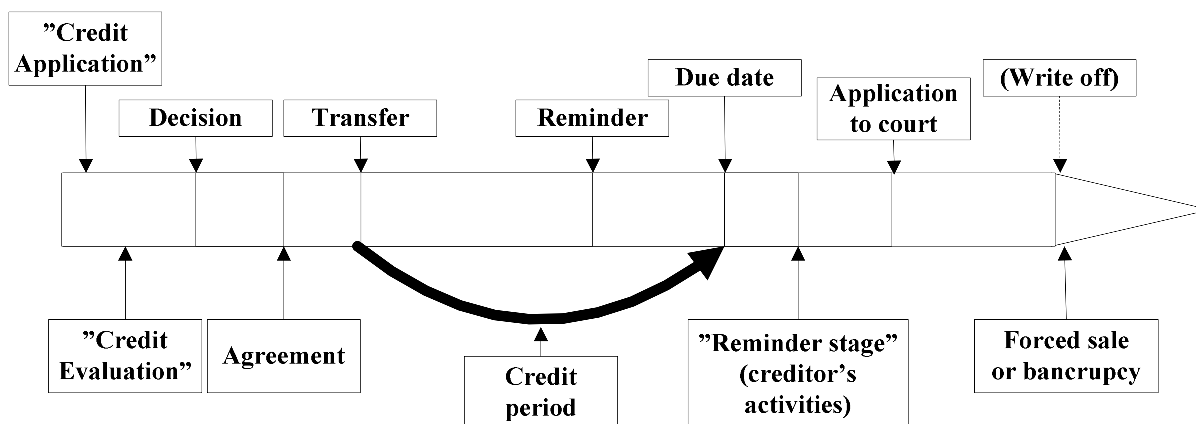

Figure 1 Time spam of credit Source: Own work

Other authors paid attention to monitoring issues as well, but more from a broader perspective of the overall process. Mačerinskienė and Ivaškevičiūtė (2008) provided an informative structure of the evaluation model of a commercial bank loan portfolio; Eklund and Larsen, 2001; Lewis and Davis, 1988 and others presented evaluation model of commercial bank loan portfolio/ credit risk; others (Zelgalve and Romanova, 2009) put more emphasis on the problems regarding credit risk management, and importance of clear credit rating procedures; internal rating systems and procedures are discussed by Jacobson et all, 2006; Kancerevyčius, 2008; Savickaitė and Valvonis, 2007; Standard & Poor's…, 2009; Valvonis, 2006a; Valvonis, 2006b. A comprehensive investigation was made recently by Calabrese and Zenga (2009) on recovery rates of Italian bank loans.

After analysis of different articles regarding credit risk management, the conclusion at this point can be made that there is a significant amount of information regarding 'How to manage credit risk', mainly from quantitative point of view, stressing different models and techniques. There is still lack of analysis done with regard to identification of early warning signs especially during economic downturn periods, and effective credit monitoring, as a part of total risk management process in commercial banks. In this field the most significant theoretical reference are the publications of Basel committee, publications and reports of the main global rating agencies (Moody's Investors…, 2001; Standard & Poor's…, 2009; Fitch ratings, 2009).

The execution of the credit review is based on external and internal data of the credit ap-plicant. Especially for extensive exposures, considerable resources may be tied up in the process of collecting the data, checking the data for completeness and plausibility, and passing on the data to employees in charge of handling, analyzing, and processing the expo-sure within the bank. These steps can also lead to a large number of procedural errors. As the data included form the basis for the credit re-view, errors in collecting, aggregating, and passing them on are especially relevant also from a risk perspective (OeNB et all, 2004).

2 Credit Monitoring – Early Problem Recognition

During the credit period economic developments may cause some changes that have an impact on risk. Banks have to monitor credit exposures periodically and continuously so that changes are detected on time. In practice, this is done by means of so-called periodic and regular checks. To detect risks between peri-odic check of borrower to be carried out due to the expiry of a specified term, many banks use early warning systems.

Based on early warning indicators which are usually defined for each segment, a differentiated review process is triggered. Early warning systems take into account defaults with regard to the contractual relationship be-tween bank and borrower. The insufficient performance of interest and principal repayment obligations are of great importance. Reminder procedures are set up in order to react and deal to these situations.

A checklist for a client executive at financial institution is illustrated below (Figure 2). This model will be used as a guideline in the further investigations.

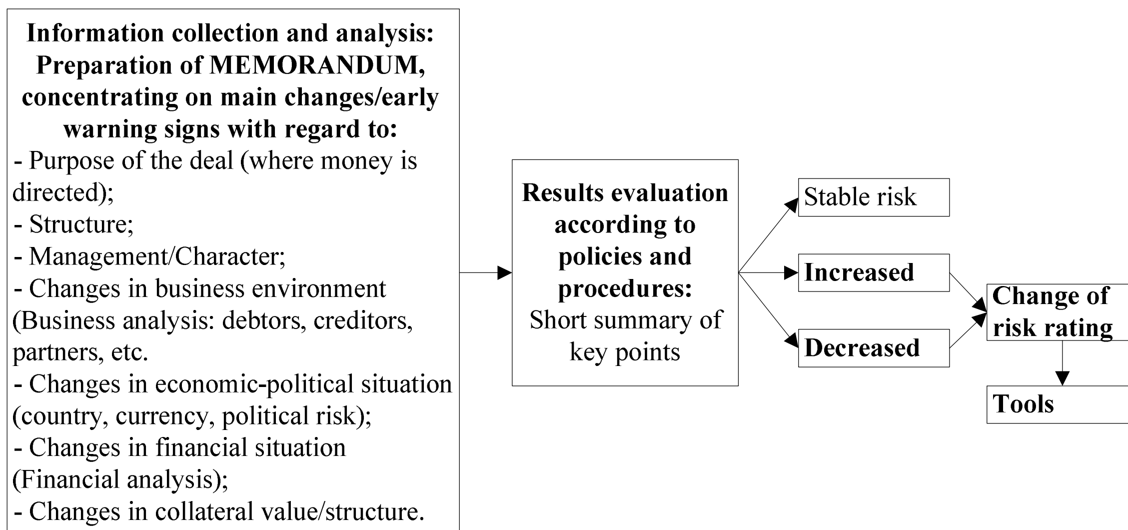

Figure 2 Main steps in credit monitoring Source: Own work

As it can be seen form figure above, after the credit is granted, any changes from the initial situation, environment, circumstances under which the credit was provided, must be noticed and immediately properly evaluated. Of course, during good times, the performance, as well as external environment indicators tend to increase and be a sign for a credit institution, that credit risk decreases, and client might be provided additional financial tools. On the other hand, when economic downturn occurs, most of the factors, indicated during the credit period tend to deteriorate, a lot of significant negative changes occur, therefore it is extremely important to concentrate on these problematic areas, notify problems, and provide remedial solutions as soon as possible. Further, main early warning indicators, related to each of the factor in the credit monitoring process will be covered.

2.1 Early Warning Signs in Credit Monitoring

Before the credit is granted the significant analysis must be made ('knowing your customer'). Different principles are used to define the most significant principles in issuing a loan. The most appropriate is CAMPARI classification of the main loan related factors that contains of: Character (C) – a measure of the client reputation, its willingness to repay, and its credit history; Ability (A) – the capability to repay debts with regard to the client's financial situation; Margin (M) – the "mark-up" that client has to pay for a bank, reflecting the credit risk taken by a bank granting a particular credit; Purpose (P) – the aim of the credit to be used; Amount (A) – the sum granted by a bank according to the loan agreement, that is fully evaluated and corresponds to the real need for a particular project/customer; Repayment (R) – loan repayment schedule, that undoubtedly should correspond with client's cash flows and ability to pay; Insurance (I) – the collateral, including real estate, current assets (stocks or accounts receivable) or guarantees that secure the obligations to the bank. Hereafter letters in brackets refer to the letters from CAMPARI classification.

All these principles are extremely important in the credit granting as well as monitoring process. Suppose the best credit solution was provided for a client, appropriately evaluating the risk and giving the relevant margin and signing a proper credit agreement. At this point the monitoring of a particular credit starts.

Early warning signs are a set of features that allow detecting possible worsening of the financial status of the client in advance and a set of means, which allow preventing that worsening. The sales manager and the credit analyst have to follow up the information on essential changes of the client's activities in the mass media in order to check whether that corresponds to the information possessed by the bank and analyze the effect of that information to the borrower's ability to repay the credit. The decline of the client's turnovers via bank accounts is the simplest and the quickest problem indicator.

Early warning signs indicators for the corporate customers include management, financial and external factors.

The quality of information is often the main risk factor in the process. Referring back to the model presented in the Figure 2, the key points are needed to be stressed, related to each of the factor.

2.2 Monitoring External Environmental Related Risk

Industry profile and Business environment should be analyzed first of all before granting the credit and analyzed thoroughly during the credit period, especially for cyclical industries. Industry members, suppliers, customers, trade associations, government reports are the main sources of the most relevant information related to particular industry.

Industries that are in decline, highly competitive, capital intensive, cyclical, or volatile, are inherently riskier than stable industries with few competitors, high barriers to entry, national dominance, and predictable demand levels. Moreover, very important is operating environment, resulting from social, demographic, regulatory and technological changes. Industry overcapacity is a key issue, because it creates pricing pressure and thus can erode profitability. Besides, important are the stage of an industry's life cycle and the growth or maturity of product segments that determine the need for expansion and additional capital spending (Fitch Ratings, 2009). Furthermore, labour market constraints or incentives, strength and political direction of labour unions, labour cost and strike experience, condition of general infrastructure in the country—with potential constraints on water supply, cost of electricity, price and availability of oil and gas; accounting and reporting transparency in the country; regulatory risk for utilities, banks, and other entities under regulation, existence or potential for heavy taxation; and corruption-related risks affecting day-today operations should be taken into account as risk factors.

According to S&P (Standard & Poor‘s…, 2009) the main country risk factors that have affected financial performance and caused corporate defaults in the past include: Currency mismatch on operations and financial obligations combined with sharp local currency depreciation; Price controls combined with drastic raw material increases; Sudden contraction of liquidity, combined with a general weakening of the financial system and a possible freezing of bank deposits; Large increases in the cost of funds by financial intermediaries, if available; Delayed payments from domestic customers, including sovereigns themselves or sovereign-owned entities; Increase in export tariffs or taxes; Prolonged labour strikes with excessive demands; GDP contraction and reduced domestic demand for several months or years; Sovereign restrictions on access to foreign exchange needed for debt service; and Forced conversion of foreign currency denominated obligations into local currency.

Therefore these, **most commonly missed early warning signs** shall be followed and noticed by bankers in order to identify the possible effect to the borrowers performance and ability to repay the debt:

- Changes in taxation, regulations, support programs by the government;
- Change in labour relations;
- Consolidations in the industry and concentrations;
- Political rumors;
- Changes in technology;
- Increased product substitution;
- Foreign competition and FX swings;
- Decreasing consumer purchasing power, changes in consumer preferences;
- Removal of barriers to entry and new entrants arriving etc.

Industry profile and Business environment should be also analyzed first of all before granting the credit and analyzed thoroughly during the credit period, especially for cyclical industries. Industry members, suppliers, customers, trade associations, government reports are the main sources of the most relevant information related to particular industry.

Industries that are in decline, highly competitive, capital intensive, cyclical, or volatile, are inherently riskier than stable industries with few competitors, high barriers to entry, national dominance, and predictable demand levels. Moreover very important is operating environment, resulting from social, demographic, regulatory and technological changes. Industry overcapacity is a key issue, because it creates pricing pressure and thus can erode profitability. Besides important are the stage of an industry's life cycle and the growth or maturity of product

segments that determine the need for expansion and additional capital spending (Fitch Ratings, 2009).

Deep business risk analysis must be done before making a decision to issue loan and during monitoring process especially when making regular review of client's loan portfolio. Business analysis focuses on the market position of the borrower and core competences of it. Company size and diversification often plays role, as company size tends to be significantly correlated to rating levels. This is due to the fact that larger companies mostly benefit from economies of scale and/or diversification, translating into a stronger competitive position. Small companies are mostly more concentrated in terms of product, number of customers, and geography. Small companies are sometimes touted for their greater growth potential. However, fast growth often is subject to poor execution and can also tempt a company into over-ambitiousness, which could involve added risk (Moody's Investors…, 2001; Standard & Poor's…, 2009).

Several factors indicate borrower's ability to withstand competitive pressures, which can include its position in key markets, its level of product dominance, ability to influence the price. Keeping a high level of operating performance mostly depends on product diversity, geographical spread of sales, diversification of major customers and suppliers, comparative cost position (Fitch Ratings, 2009).

Early warning signs of business environment are following:

- Significant changes in pricing, purchasing, marketing policies;
- Changes in suppliers and main customers;
- High concentration of suppliers or customers;
- Changes in conditions of payment or collections;
- Sale of major assets;
- Lack of coherent business plan;
- No sustainable competitive advantage and/or no niche;
- Frequent or unusual changes in business or strategy;
- Meaningful loss or gain of market share;
- Labour issues;
- Failure to maintain apex and R&D in line with market;
- Excessive growth;
- Investments in unfamiliar businesses; Environmental impact etc.

2.3 Monitoring Internal – Borrower-Related – Risk

Character and Management. In particular, it has been established empirically, that the age factor of an organization is a good proxy for its repayment obligation. Only establishment of good relations by client's team and regular meetings help to understand the character and management itself.

Management, the most significant influence to the character, includes all the management functions, such as: control, motivation, planning, and how they are implemented in the company.

According to experts of S&P (Standard & Poor's…, 2009) recent examples of poor corporate governance have contributed to impaired creditworthiness. The particular cases included:

- Uncontrolled dominant ownership influence that applied company resources to personal or unrelated use;
- Uncontrolled executive compensation programs;
- Management incentives that compromised long-term stability for short-term gain;
- Inadequate oversight of the integrity of financial disclosure, which resulted in heightened funding and liquidity risk.

Therefore at this point it can be summarized that the following **early warning signs** show the possibility of decreased creditworthiness **with regard to management:**

- Change in ownership and/or change in key management;
- Evasive answers to questions, inaccessibility of usual contacts, 'foggy' answers to direct questions concerning recent or projected performance;
- Topping down of information, reluctance to provide internal information, projections;
- Inability to articulate business and financial strategy;
- Arrogance;
- 'One man show' in management: lack of management depth, lack of relevant experience;
- Over-optimism, willingness to speculate;
- No previous experience of a downturn or business reversal, etc.

It should be noted, that the value of the company is nor the value of assets, stocks or any tangible thing, it is 'something more' which

highly depends on the people inside the company. If the right people with the right experience for the right positions are chosen any downturn can be managed properly.

Company's Structure. Structure of the borrower/group is another key issue, helping to determine during all loan period where the assets are actually held, and who the real borrower is. The clear structure of the company should be presented to the bank, and lending limits are set not to the separate party, but the whole group, and analysis is made on the group level. It is important to point out that all daughter companies included should point out every single one shareholder up to individuals.

During the monitoring process, significant changes in the structure, new players in the group, unclear intra-company relations shall be noticed and taken into account as warning signs.

Purpose of the Credit. The utilization of credit according to the purpose of transaction (P) shall be monitored at first so that long term products are not financed by short term loans or visa versa. Significant changes in investment project value, delays, rejections of support agencies to provide financing according to schedules, full use of short term facilities at the day of repaying long term obligations (if the client has both types of facilities) attracts the attention and raises questions to clients management.

Insurance/Collateral. Collateral (I) is extremely important factor to monitor. It is generally divided into personal and physical. In the case of personal collateral, the provider is basically liable with his entire fortune. Examples of personal collateral are the following: surety ship, guarantee and letter of support or collateral promise.

In the case of physical collateral, the bank receives a specific security interest in certain assets of the borrower or the collateral provider. Examples of physical collateral are the following: mortgage; pledge of movable assets (on securities, goods, bills of exchange); security assignment, retention of title (OeNB et all, 2004; etc.).

Value and type of collateral have a significant impact on the risk involved in lending. Of particular relevance in this context are those types of collateral which afford the lender a claim on the collateral, and those product constructions under which the lender has legal and economic ownership of the asset to be financed (OeNB et all, 2004).

The stability of collateral value, depreciation, the relation between collateral value and borrower's financial condition, situation of the guarantor, etc. should be taken into account. Many banks have their own experts to re-evaluate collateral value regularly. For new projects, secured mainly by long term assets a certain percentage (LTV – Loan to value) ratio is usually set, for example: the loan can amount 70 % of factory appropriate market value. Normally the amount of credit should be not more than the liquidity value of the collateral. The problem occurs when long term credits are granted, and the value of collateral, mostly real estate, shall be tracked. In changing economic conditions, it is extremely difficult to evaluate factories, land plots or residential real estate. Some borrowers are asked to provide new valuation reports periodically, and the value of assets may change dramatically with regard to economic situation, and this creates the need to review the financing structure and make proper decisions. The value of pledged short term assets (for example, stocks or accounts receivable) is closely monitored by periodical, mainly monthly, reports from a client. It is extremely important to visit company regularly and check the condition of collateral.

Mostly banks pledge the cash inflows into accounts equivalent to a credit amount, so the track of account balance shall be in place as well. For example, a sustained drop in the borrower's checking account balance may signal that borrower has financial trouble, or account activity may suggest that the borrower is engaging in risky activities. A change in suppliers might mean that the borrower is pursuing new lines of business. Any significant change in the borrower's payment procedures is a signal to the bank that it should make inquiries. Compensating balances therefore make it easier for banks to monitor borrowers more effectively and are another important credit risk management tool (Katz, 2006).

The early warning signs regarding collateral include:

- The termination of insurance agreement from insurance company;
- Fast depreciation of pledged assets;
- Significantly overstated/understated value in updated property valuation report;

- Changes in the guarantor's financial situation etc.;
- Fast decreasing of stock levels;
- Significant insurance payments regarding damage of pledged assets.

For bank it is also important to make sure, that all facilities are cross collateralized, and in case of default, immediate actions can be taken. Also it is extremely important to make sure that all long term assets in a complex (for example factory) are pledged, especially different small buildings around the main facilities that usually belong to the main buildings, but have different inventory number. In such case, there might be problems, when client defaults, to get the whole complex under one address, as some of the assets might be belonging to borrower, or even pledged to other creditors (structural subordination).

Monitoring of Financial Performance. Having evaluated the customer's operating environment and competitive position, the analysis proceeds to several financial categories. The company's business risk profile determines the level of financial risk appropriate for any rating category. Financial risk is portrayed largely through quantitative means, particularly by using financial ratios, calculated at least quarterly.

Financial analysis for corporate customers is done regularly by analysts taking the newest financial information and putting in special financial models that are made for each client and used in each bank individually. Banks choose indicators, which allow precisely forecast the probability of problems in fulfilling the obligations, and calculating the probability of default. Commonly additional information should be regularly presented by the borrower, in order the income statement, profitability, asset quality, efficiency, real financing needs debt service capabilities etc. would be analyzed properly, clear projections and different scenarios would be created and the best solution chosen. Some banks provide their customers with specific asset management software, where the borrower can put the historical and current data, and find the main financial problems, warnings indicated clearly. Having the same asset management software, it helps a lot later, if the client has long term relations with the bank, and constantly present updated information in the same format.

It is extremely important to understand every line in balance sheet and income statement as companies sometimes tend to manipulate with numbers. For example, companies may artificially decrease earnings in periods of good times, when growth is significant and show them in the future, when results are not that impressive.

Net income might me overstated by management due to following reasons: meeting earning expectations, remaining in compliance with lending covenants as well as possible increase in compensation. Management may understate earnings reasoning that with lower earnings trade relief in form of quotas and protective tariffs may be obtained. Furthermore more favourable terms from creditors as well as labour unions may be negotiated.

Managing balance sheet is another popular manipulation by management. For instance, if assets are overstated or liabilities are understated, company appears more solvent. On the other hand, company may understate and prefer to show itself as 'less solvent' in order to get concessions from creditors and other counter parties.

Low earnings quality can result from (Chartered Financial…, 2009):

- Selecting accounting principles that do not properly represent economics of transaction;
- Structuring transaction to achieve desirable outcome;
- Using aggressive or unrealistic estimates and assumptions;
- Exploiting the intent of an accounting standard.

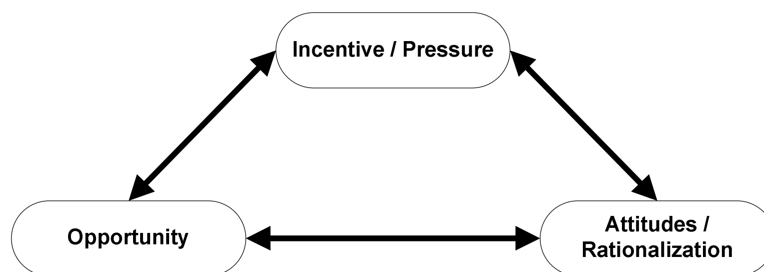

Figure 3 Fraud triangle Source: Own work

Taking into account all factors mentioned above, financial information users must be familiar with factors and early warning signs of possible fraud. AICPA (American Institute of Certified Public Accountants Statement on Auditing Standards) indicate in Statement of Auditing Standards No.99 three conditions that are usually present when fraud occurs (Figure 3). It is important to notice, that not all of these conditions need to be present for fraud to occur.

So for the credit analyst there is quite a big job to find out early warning signs, especially having interim, unaudited data of companies that might be a result of some kind of manipulations by managers, in order to show better situation. So, the most popular early warning signs in financial analysis include (Bessis, 1998; Chartered Financial…, 2009; Standard & Poor's…, 2009; Katz, 2006):

- Aggressive revenue recognition. The most common manipulation with earnings is that revenues are recognized too soon. Despite the fact that revenue is recognized in the income statement when it is earned and payment is reasonably assured, in some cases revenue is recognized before delivery takes place. It is important to notice and understand when recognition is in place.
- Different growth rates of operating cash flow and earnings. There should be a stable relationship between the growth of operating cash flow and earnings. If it is not, manipulations may exist. A company reporting growth in earnings, but declining operating cash flow, may be recognizing revenue too soon and/or delaying recognition of expense. Cash flow earnings index (operating cash/net income). If this index is consistently below one or is declining over time is suspect.
- Abnormal sales growth comparing to the economy, industry, or peers. Abnormal growth may be the result of superior management or products, but may also indicate accounting irregularities. Receivables that are growing faster than sales could indicate nonexistent sales.
- Growth in inventory out of line with sales growth or day's inventory. Increased inventory may indicate existence of obsolete products or poor inventory management, but it could also result from overstating inventory, decreasing COGS[2] and thereby increasing profit. This can be detected by looking at a declining inventory turnover ratio.
- Classification of no operating or nonrecurring income as revenue. Some companies try to move items up the income statement to show higher revenue growth.
- Deferral of expenses. By capitalizing operating expenditures, company delays expense recognition for the future, to boost current period profits. It is important to notice such sound names as "deferred marketing charges", "deferred customer acquisition costs".
- Excessive use of operating leases by lessees. Some companies use this off-balance-sheet financing technique to improve ratios and reduce perceived leverage. If a company is using these to a greater extent than peers, this is a potential red flag.
- Classification of expenses or losses as extraordinary or nonrecurring. Some of the companies move expenses down the income statement to boost EBITDA.

[2] Cost of Good Sold - financial accounting term which describes the direct costs attributable to the production of goods sold by a company. This includes material cost and direct labor cost and excludes indirect cost like advertising or R&D.

- LIFO[3] liquidations. When LIFO company sells more inventory than it purchases or produces during rising prices period, it reduces COGS and increases profit, although taxes are higher as well. This red flag can be identified by reviewing the inventory footnotes for a decline in the LIFO reserve.
- Gross margins and operating margins out of line with peer comparisons. This might be an indication of accounting irregularities. It's important to determine company's conservatism by comparing its accounting principles as disclosed in the footnotes, to those of its industry peers.
- Use of long useful lives for depreciation and amortization. Depreciating or amortizing the costs of an asset over more periods result in higher reported earnings. It is needed to compare useful lives of assets with industry peers.
- Aggressive pension assumptions. High discount rate, low compensation growth rate, or high expected rate of return on pension assets will result in lower pension expense and higher reported earnings.
- Fourth quarter surprises. Higher earnings in the fourth quarter which can not be explained by seasonality may be an indication of manipulation.
- Equity method investments and off-balance sheet special purpose entities. Other off balance-sheet financing or guarantees etc.

When any of the issues above occurs, a lot of questions shall be asked. Usually, if there are really problems to be hidden by a company, asking questions related to early warning financial signals, raises a lot of other early warning signals such as inaccessibility of management, late submission of information, frequent changes in contact person, etc.

3 Monitoring Tools and Credit Customer Servicing Changes

The expert investigation method was applied to ascertain the need of monitoring in credit business. Seven experts from three Lithuanian banks were investigated. The query included questions regarding their opinion about the need credit monitoring process in banks; tools applied in the credit monitoring process; their assumptions about possible reaction (changes of agreement conditions, etc.) of banks; their experience in credit business and others.

Summarizing results of investigation the following findings could be done.

Early warning helps to detect situations in which credit limits are exceeded or mark changes in the risk position are at the level of the total portfolio or individual loans, in time and it is used to generate warning signals for risk controlling.

According to experts, if the risks are detected earlier, then more effectively they can be countered. Warning signals should be generated before the limits are fully reached in order to make it possible to make use of all (levels of) risk mitigation measures. If the warning is generated in time, limits are not exceeded, and there is no need to approve such exceeding of limits in retrospect.

The information itself, however, is not sufficient; it is also necessary to trigger risk controlling processes in time. Thus, the requirements on risk monitoring and early warning system are, on the one hand the timely, automated generation of warning signals, and the triggering of processes for increased risk monitoring or risk mitigation on the other.

In order to keep track of default on interest, principal repayment, as well as possible and/or existing breach of covenants, a formal reminder procedure is initiated in credit institutions.

Reminder procedures are part of the credit monitoring of individual credit exposures. To avoid forgetting to send out reminders, banks apply standardized and automated reminder procedures. If IT system registers the occurrence of a default on interest or principal repayment, a collection letter is most often automatically sent to the borrower. The length of the waiting period has to be stipulated in the internal guidelines and implemented in the systems. This ensures that collection letters are sent out in time in every case (OeNB et all, 2004).

Larger clients (bigger companies, or groups of them), usually are informed by client executive, as it is very important to know the real reasons of default (sometimes is just a technical delay), and more communication with client is involved. For business reasons, they are excluded from the standardized reminder proce-

[3] Last In First Out: inventory accounting in which the most recently acquired items are assumed to be the first sold

dures. The prerequisites for an individualized reminder procedure have to be stipulated in detail in the internal guidelines. It is important that no general exception is made for entire groups of customers. Of course, an exception must be applied only to those customers whose contributions to earnings justify the resulting risk and the associated process cost. If the individualized process – usually a personal conversation with the borrower – does not yield any contribution margins, the standardized reminder procedure should be initiated.

Taking into account the changes in the possible risk comparing the situation when credit was granted with actual one, the credit rating of the client can be changed, which therefore usually leads to quite different relationship handling. In case the borrower's risk class is upgraded, no significant changes in credit monitoring occurs, except a possibility to make less frequent review, and possibility to even increase exposure by providing other financing products. The result of credit monitoring means changes in credit agreement and collateral (Figure 4).

In addition to the entry in the credit file, the exposures subject to more careful servicing should be documented in a database. These cases must be reviewed by the employee responsible in processing at an interval to be stipulated in the internal guidelines. If there are reasons for a review at an earlier time, such a review should be conducted also if unscheduled. In the course of the review, the development of the exposure under the intensive servicing strategy should be assessed as well.

Any changes in the strategy should be followed and registered. It has to be documented if the exposure remains serviced intensively, or whether it is transferred to standard servicing or to restructuring/workout.

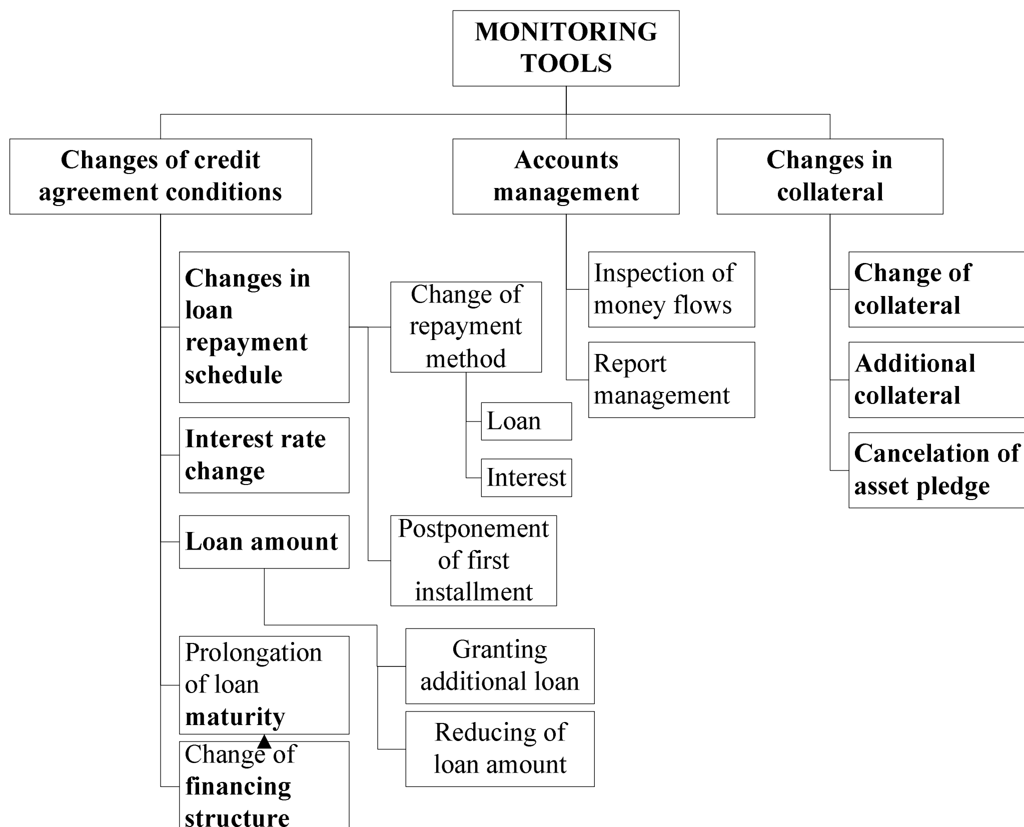

Figure 4 Credit Monitoring Tools Source: Own work

To sum up it is very important to set a clear strategy on time, review the security position and address weaknesses, measure the owner's (main shareholder's) willingness and ability to support the company if needed. However it should be taken into account that if client is not cooperative, owners do not show commitment, and there are no signs for client to survive, exit strategies (refinancing, enforcement, assets sales) may be the best option.

Conclusions

Summarizing it should be stated that there is no doubt that evaluation of the client and the loan before granting is extremely important but the relevant monitoring of issued loan helps both – the client and the bank – to redeem credit in time or to minimize possible losses.

Reasons for deterioration of financial situation of the client could be very different and depend on both – external conditions (including situation in the country or in specific industry) as well as internal (comprising from financial position and character of the client or management peculiarities).

Credit monitoring is a regular observation of the borrower and the status of the financed object and analysis since the credit granting till the complete repayment to the bank. The requirements for the quality of the credit revision during the credit monitoring are the same as of the evaluation of the credit being granted.

The purpose of the credit monitoring is to detect possible problems and prepare a plan of means, streaming to prevent or reduce the loss timely. In case of positive development of the borrower, credit monitoring provides a possibility to offer new bank's services to the client.

Early warning signs are a set of features that allow detecting possible worsening of the financial status of the client in advance and a set of means, which allow preventing that worsening. The sales manager and the credit analyst have to follow the information on the essential changes of the client's activities in the mass media in order to check whether that corresponds to the information possessed by the bank and analyze the effect of that information to the borrower's ability to repay the credit. The decline of the client's turnovers via bank accounts is the simplest and the quickest problem indicator.

Early warning signs could be assorted into four groups: early warning signs of business environment, early warning signs with regard to management, early warning signs regarding collateral, early warning signs in financial analysis.

Results of credit monitoring usually should be put down in the additional loan agreement (consisting from changes: in repayment schedules, of interest rates, of loan amount and prolongation of loan maturity) or include changes in collateral.

According to experts' any of mentioned actions applied for the client could improve credit repayment and we can conclude that credit monitoring is a core of credit risk management process.

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