

Premises and alternatives for dimensioning the enterprises bank credits

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Abstract. The paper deals with bank lending to economic agents from the premises and objectives of conducting this process by outlining the determinants of the extent to which banks can lend firms. In this regard, reference is made of financing and economic systems recognized in current theory and practice that have implications for the size of bank loans used by businesses. In particular, it cited the specific context of "economics of debt from banks, as outlined certain guidelines and limits that are to be taken into account by banks when determining the maximum loan that can be given.

The central place is in the paper, sizing alternatives to bank loans by assessments made according to the specific determinants of work in concrete terms, the beneficiary companies. In particular, research work deepens the quantification of bank loans to assets necessary for the formation of economic assets. In this regard, consideration is sizing options (credit) promoted in banking practice, but it outlines the possibility of applying other solutions, especially one focused on the study of mathematical and statistical processing of the information provided electronically, usually through the levels certain synthetic indicators, which represent a factor / variable-issue compared to the factor / variable-effect, which is the maximum allowable credit.

Keywords: bank credit, credit size, variables, current assets

1 Introduction

Approached from the perspective of the funding system of the economy (any country) bank lending to the economy, including its proportions, evolving subject of many objective factors, but also subjective, which generates significant differences in space and time. In this sense, can be invoked in a general plan, the different socio-economic system, which profoundly changed the structure and functioning of the banking system, namely banking and especially on the loan, they reflected the liberal and the system of financing the economy.

However, if we refer only to genuine market economies can be seen that, considering the proportions held by financing the structural components of the systems, they show significant differences. Such differences are manifested mainly by the scope of the two subsystems of the program, consisting of capital market financing, namely debt financing from banks, each emphasizing distinct elements, with some implications, even against the backdrop of the functioning of the same economy market. So it was that it be considered, either as an economy "stock market", either as a "debt from banks" and if the latter, the presence of banks, which provides loans of various companies, is a feature defining.

From the same perspective, is finding that while significant savings bank indebtedness assumed up to a large extent, the financial capital of companies or traders on account of loans (credit) banking, the defining characteristic of market economy is that capital that such capital formation, with priority direct transactions made in the financial markets between the holders of Cash and interested companies to take over.

2 Bank crediting processes

It also requires that both observation and finding alternative financing coexist economy, typically in the financial systems of different countries, and instead mainly of bank lending (as compared with direct financing from capital markets) highlights the special role important it is for commercial banks, especially in the reallocation of financial resources in countries that emerged an economy based on borrowing from banks (bank-based).

In principle, however, banks occupy a central position in the operation of all financial systems characteristic of market economy and hence the functioning of financial-monetary mechanisms, these being in situations of financial intermediaries, along with other non-banking institutions. They carried a large extent, "collection" of cash accumulated at the level of economic links of the circuit, including the population, as well as placing them in the credits which are necessary for the implementation of new business processes, integrating them into a functioning market economy. Thus, banks may mediate the (intermediate) relations to banking credit, and enhancement of optimal resource reallocation, helping to create preconditions for growth and financial functioning of the economic mechanism and development of society and in terms of specific interrelationships that are involved, we appear to Figure 1 Schematic representation of be revealing.

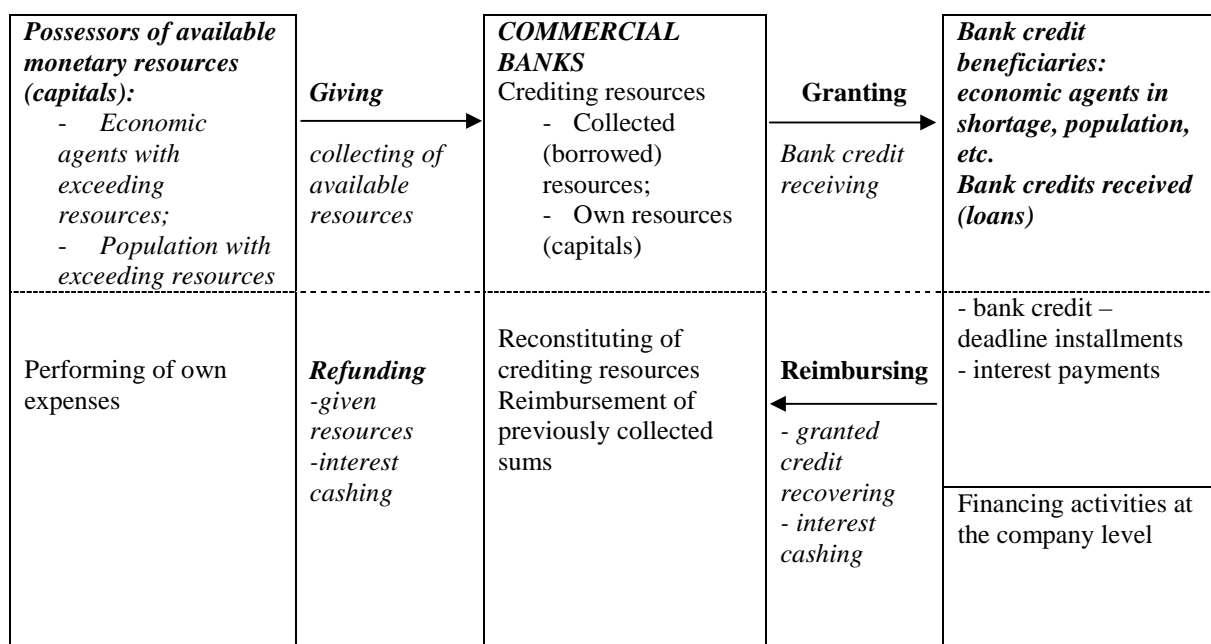


Fig.nr.1. Inter-relations specific to bank crediting processes

According to the above scheme, as major financial intermediaries, commercial banks made in the foreground, a redistribution of free money resources in the economy, their integration into the economic circuit intercession. They take them from their owners and therefore persons holding borrow sums available to them as loans granted to those who need capital funding more than the available funds, at a time.

However, a key objective necessary premise because commercial banks can lend to poor economic agents, is to conduct training process objectives of cash in the economy and to "collection" of them by the banks from their owners. The possibility of bank lending depends on the extent to which

availability created in the economy are taken, including the recovery of loans previously granted by banks to their customers, that of making repayments and interest payments at fixed maturities, and in direct connection with the second aspect, became crucial quantitative and qualitative dimensions of economic processes to which the lending bank.

On a broader level, in terms of commercial banks, development characteristic continuous cash flows and bank lending is under the impact of their access to resources to obtain additional credit on their account by the bank refinancing program. But in this case, size is a necessity to ensure correlation of credits granted by banks lending to those resources that they may have, within a period of time.

It should be noted that under the latter aspect is of particular interest and monetary policy decisions that stand between the interest rate and the reserve requirement imposed on commercial banks. They have a direct or indirect lending bank is reflected in the proportions of loans granted by banks, including related risk management, taking into account the interrelations between bank loans and currency stability, maintaining its purchasing power.

3. Assessment

In relation to the considerations set, it is obvious interacting process of bank loans (firms) with processes in the real economy, primarily those materials, which are interwoven in an objective, background expression of value, in cash, and the latter. Thus, starting from the position at issue (money) of bank credit, is the premise itself maintaining its objective of sizing the money supply issued by the insurance limits Monetary steady state, which involves appropriate sizing of the amounts advanced by banks the economy, the bank lending.

From a similar perspective, a favorable debt financing by economic agents to banks lies in the stability of the real economy or in the stabilization of her, especially when confronted with deregulator phenomena, ensuring a higher level of predictability decisions on economic and financial activity. However, cyclical developments in economic conditions, increased difficulty in this area, making it necessary to amplify the concerns of banks for analysis and forecasts as realistic decisions vital to their requests for loans from customers. In this respect, particular importance is proving to be very tolerable to quantify the amount of credit given to economic agents, based on the principles of bank credit, including a central bank is prudent, and thus ensuring an efficient credit risk management.

Simultaneously, it is necessary that the dimensions of all loan by a bank or another, to be based on knowledge and analysis of economic and financial situation of customers now and in the light of its evolution in future periods to which they indebted the banks. It is mandatory reporting of quantitative and qualitative dimensions of the activities for which credits are required of banks, including the purpose and results obtainable under the aspects that are prerequisites and loan repayments, interest payments etc. However, without a doubt useful aspect of the application in banking practice assessments promoted more analytical nature, typically, they require relatively more time and effort, although their effectiveness is sometimes questionable, including the risk of loss of viable reviews. In addition, many of the methods used do not provide sufficient certainty in terms of size variables taken into account and thus the maximum allowable credit, and some of them, by their nature, a low dose of predictability or changing the scope of rapid changes manifestation of their environment.

As a result, such an approach appropriate size of bank loans granted to companies may become unsatisfactory, at least at higher levels of decision making, justifying it, or association, or substituting it with something more synthesizers. However, in this sense, I think that may be considered an acceptable alternative credit sizing calls to the electronic processing of information is necessary, taking into account the content of synthetic indicators which would allow determining the maximum

amounts that can be granted by banks operating activities (current) operators. It consists, therefore, a comprehensive sizing applicable, in principle, dealing with the credit assets, the revolving known forms of "separate account line of credit by lending," or, especially, to "discover the current account."

So if a company seeking credit for the formation of current assets, the maximum amount allowable for the sizing of the loan, the bank can start estimated values of specific determinants, such as turnover, resource requirements (capital) funds to cover its current assets, equivalent to the total amount of their funds (equity) of their own and those assimilated to finance current assets, of rotation of funds (capital) corresponding to these assets.

In this approach, the maximum allowable credit to be granted a business bank would result from the following relationship for calculation:

$$C_{mac} = A_{ct} - F_{pac} \quad (1)$$

$$A_{ct} = \frac{CA}{V_r} \quad (2)$$

$$F_{pac} = F_r + F_a \quad (3)$$

$$C_{mac} = \frac{CA}{V_r} - F_{pac} \quad (4)$$

where: C_{mac} - The maximum loan current assets; A_{ct} - Total current assets; F_{pac} - funds (equity) of their own and similar current assets; CA - turnover; V_r - rotation speed of the funds (capital) of current assets, F_r - working capital, F_a - the assimilated own funds.

Appropriate content and positions occupied by factors included in (4), size of bank credit allowable current assets depends on the formation of values and hence the corresponding variations of synthetic indicators. Thus, turnover factor is manifested as a variable determining the maximum size of bank credit, resulting in changes to it, directly proportional to its variations. This means that, in principle, if other factors remain constant, an increase in turnover determines allowable proportional increase of bank credit and any reduction of it will lead to the decline in the loan that can be given by the bank.

In turn, the speed of rotation of funds (capital) assets affected assets, also in the depiction of variable decisive influence on the allowable size of bank loans in an opposite direction to that of turnover, because the rotation speed, reflected in the increasing number of Runs, needs lead to a reduction of capital (funds) for training of current assets, as its reduction (number of rotations) determined and an increased need for financial resources covering those assets, resulting in a decrease in the first case, such an increase, in the case of Finally, the allowable amount of bank credit.

Similarly, the dimensions of which are incorporated funds (equity) and assimilated their own training using current assets, as well as variations of it, affects everything in reverse evolution allowable size of bank loans granted by the bank for this purpose.

We find out that the size of such a type of loan, the maximum volume that can be given by the bank requesting a firm, the relationship is based on objective determination of the factors involved and included in the above relations. Such relationships can be equated with the type of ties treated multiple correlation statistical studies and mathematics and that the loan would be granted the maximum possible-effect phenomenon, given that variable, and the turnover rate of rotation of funds (capital) corresponding current assets (expressed in number of revolutions or coefficient), and funds (equity) for their own similar assets and the assets are phenomena for this case, namely variable determining the size of bank credit.

Therefore, statistical and mathematical perspective, the functional relationship between variables to which we refer can be played in linear form, by the equation:

$$y = a + bx \quad (5)$$

Corresponding to the equation that, in principle, the values you can get "y" are determined by those made by variable x, while the parameters "a" and "b" are constant. But if we refer to as relation (4), shows that functional links defined variable dimensions, denoted by "y", representing the maximum bank credit can be granted by the bank of a firm depends on the variations of the three phenomena that The final calculation included in the relationship (4) and write now: x_1 - turnover; x_2 - the speed of rotation of funds (capital) corresponding to current assets; x_3 - funds (equity) of their own for the formation of similar assets.

Therefore, the expression of specific functional connections maximum variable size of loans that could be extended by the bank to form a company assets (y), sized according to the variations of the three drivers, write (as variables) with x_1, x_2, x_3 can be played under the following general form:

$$y = f(x_1, x_2, x_3) \quad (6)$$

On the other hand, it becomes necessary to check the validity of the linear form of correlation links between variables exist in reality taken into account by equation (4) and, to this end, appropriate processing of statistical data related to the determination of the straight lines proceed regression, corresponding pairs of variables involved. Determination of these straight lines is based on the positive offset negative deviations, each giving the right expression of the synthetic link between variables considered.

Also, be carried out to determine appropriate parameter values of the regression equations, which can be done by applying "the method of least squares, respecting the principle that the sum of squares of deviations of variable real value - effect (y) to its values established by theoretical calculations performed (y_x) be minimal, it is expressed by a relationship of the form:

$$\sum_{i=1}^n (y_{xi} - y_i)^2 = \text{minim} \quad (7).$$

The contextual approach, if we consider the generalized form of representation of variables involved, the appropriate regression equation (1) from which we started, then we can write:

$$y_{xi} = a + bx_i \quad (8),$$

and,

$$\sum_{i=1}^n (a + bx_i - y_i)^2 = \text{minim} \quad (9).$$

Finally, solving the normal equation system is reached as by applying Cramer's rule leads to the determination of the parameters "a" and "b" according to the following relations:

$$a = \frac{\sum x^2 \sum y - \sum x \sum xy}{n \sum x^2 - (\sum x)^2} \quad (10),$$

$$b = \frac{n \sum xy - \sum x \sum y}{n \sum x^2 - (\sum x)^2} \quad (11)$$

It is obvious that the variant type of bank loan sizing of current assets, which we have referred, which involves processing of statistical and mathematical variations of the three indicators included in (4), requires multiple calculations, including the parameters "a" and "b, for all systems of equations aimed pairs of variables involved. However, it is necessary and calls for electronic processing techniques of statistical data series and accounting, such a solution thus becoming applicable to substantiate decisions on bank lending.

In the same context, we find similarities, general, our approach with some sizing practices of certain forms of bank lending (revolving) aid to firms, such as the one on "overdraft (current) corporate customer. So, for example is assumed that the maximum permissible size of this loan may be determined by turnover, making the average revenue from customers and business lending period (consistent with perhaps one to which refers to sales), and maximum allowable credit would result as a relation of the form:

$$C_m = \frac{CA * dmi}{D_p} \quad (12)$$

where: C_m - the maximum credit can be given, dmi -average duration of proceeds are to customers (number of days), D_p - lending period (number of days).

It should, however, noted that the application of such a solution acceptable sizing of bank loans also requires, assessment calculations corresponding values of the factors taken into account, in a less revealing, more so as there is designed specifically influences the foreground, such as those arising from their payments current account, that the possibilities of linking their earnings. In addition, the normal accumulation of stocks, starting with raw materials, products finite, which may constitute objects through separate accounts of credit loan, may involve distinctive progress in bank lending. Such a situation makes it difficult to grant matching operations - repayment of bank loans, concomitant, the current account and separate accounts, and loan and may have some negative implications in terms of financial resource management, both at customers and at banks.

By comparison, the alternative approach to statistical and mathematical sizing bank credit current assets, having a more global nature, is conducive to making the study of complex containing factors, including the impact of several elements that influence the amount type of credit, which are reflected by values of synthetic indicators, including turnover and, especially, speed of rotation of funds (capital) embodied in current assets.

On the other hand, estimate the size of character that can provide loans for current business processes (exploitation) of bank customers, not exclude, but involves the actual amount of credit based on actual ability to make repayments each other related payments. This approach involves providing receipts for payments expected correlation, requiring analysis and in terms of cash flow. But under the latter aspect, it requires that the design of cash flow (cash flow) to include the exact dimensions as expected receipts and payments, including those arising from the credit requested, which shall be conducted in the reference period. In this respect, it must proceed from reasoning correctly that only the positive difference obtainable, representing higher receipts than the other payments, providing objective support loan repayments and interest payments due.

4. Conclusion

In principle, it is acknowledged that, based on cash flow analysis, can be stated that earnings would be higher than payments, creating thus the premises in favour of granting credit in the amount claimed and outlining are implicitly scheme (chart) that loan repayment rates. If, however, the difference between receipts and payments is projected to be negative, that bank may not grant credit in the amount claimed. This amount would, in principle, be reduced by properly balancing the receipts for payments, without excluding a possible relocation / resize the repayments and thus the payments on the loan, which could make possible a eventual acceptance by the bank's increased size of the credit for the amount requested.

Designed as an alternative to the sizing of credit extended by banks to corporate customers based cash flow analysis, it offers the promise of relatively realistic and analytical assessment appears to be more appropriate to conduct current bank lending. But the concern for bank management performance, particularly in terms of default risk (credit), approaches focused on modern methods, including those statistics and mathematics, and engineering analysis of the amount of bank loans, the foundation that the decisions taken at senior levels of bank lending, may be helpful.

5. References

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