The Review of Finance and Banking
Volume 03, Issue 1, Year 2011, Pages 039–045
S print ISSN 2067-2713, online ISSN 2067-3825

CAPITAL BUDGETING: THE ROMANIAN CREDIT ANALYSTS' POINTS OF VIEW

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Abstract. This study aims to disclose the methods and instruments used by the credit analysts in the most important Romanian banks regarding capital budgeting. It can be noticed that the dominant standpoint converges to the recommendations of the main reference works in corporate finance. Hence, indicators like profitability index, net present value or internal rate of return are preferred by the most part of the credit analysts. Among the techniques of risk quantification, the sensitivity analysis is the most commonly used method by Romanian creditors. About the discount rate used in investment valuation, the main part of the respondents recommends the rate of return for similar projects in the sector.

Motto:
Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime. (Lao Tzu)

1. Introduction

The capital budgeting literature provides several instruments of analysis, each of them emphasizing different particular aspects and having advantages and limits. Analyzing the investment appraisal practice, different answers are obtained for questions such as: "Which is the informational power of the different indicators?", "Which of them is the most important in the final decision of adopting a project?" and, especially, "Depending on the stakeholder interested in the results, are there differences regarding the relevant indicators for such an analysis?" The present paper reveals the Romanian credit analysts' approach regarding capital budgeting.

The Romanian banking creditors' viewpoints are important because Romania is a country with continental European financial system, where the bank loans are considered the main financing source (after internal resources), more important than the capital market. Previous studies (Dragotă, 2006; Dragotă and Semenescu, 2009, etc.) provided evidence that the banking system finances nearly all of the Romanian listed companies. Hence, among the Romanian listed companies, there are few initial public offerings. The short term bank loan is used more than the medium and long term bank credit by the Romanian listed companies on Bucharest

Received by the editors February 24, 2011. Accepted by the editors June 12, 2011.
Keywords: capital budgeting, discount rate, risk, Romanian credit analysts, questionnaires.
JEL Classification: G31.

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This paper is in final form and no version of it will be submitted for publication elsewhere.

Stock Exchange or on RASDAQ (the Romanian over-the-counter market, where the access of the companies and the trading procedures are easier than on the Bucharest Stock Exchange). The use of non-ownership capital (with funds raised from banks) is widely spread through companies listed on RASDAQ, with an average value of the financial leverage (computed as financial debt over invested capital ratio) of around 14% in 2006 (Dragotă, et al., 2008). For the companies listed on Bucharest Stock Exchange, the dependence on long term bank credit is not so important, the median values of financial leverage being around 6% in 2006, respectively 5.67% in 2007 (Dragotă and Semenescu, 2009). Regarding the total debt to total assets values, the median figures are around 37% in both years (Dragotă and Semenescu, 2009).

Other debt markets that could, theoretically, provide financing for direct investments are corporate leasing and bond markets. In Romania, none of these markets is sufficiently developed, especially for this type of investments. Romanian bond market remained incipient and very small, despite the fact that first issue of corporate bonds was in the end of the year 1996 (Siderca Calaraşi). The annual values for corporate bond market evolved from 0.63 millions RON in 1996 to 212.5 millions RON in 2004, and reached the maximum value in 2006 (846.69 millions RON). Without any issues in 2008, in the year 2009 the total amount for this market was only of 130 millions RON. The number of bond loans issued during this period of time varied between 1 bond issue in 1996 to a maximum of 5 bond issues in 2006. In 2007 and 2009 the Romanian capital market had only 1 bond issue per year. The most part of issuers on this market were from the banking system (Duhnea and Mitrescu, 2009).

According to the date from The Financial Companies Association – ALB Romania, the financial leasing market grew from 2016 millions euros in 2005 to 4948 millions euros in 2007, with significant decreases for the period 2009-2010 – 1299 millions euros and, respectively, 1121 millions euros[1]. The structure of this market by the type of lessor highlighted the bank's subsidiaries as the main lessor in Romania (around 62%-64% for the period 2008-2010). Moreover, the most part of these loans were allocated for vehicle financing, with percents varying between 83% in 2005, to 63% in 2010. Around 60% from these vehicles were passengers' cars.

In light of these data, bank loans can be considered as the most important type of credit used by the Romanian companies to finance their direct investments.

The authors have carried out a statistical survey composed of nine items, among which four are related to the criteria used in the analysis of direct investments projects, while the other five are used to establish the respondent's profile. The study is original for Romania; there is no similar research regarding Romanian banks' employees' standpoint in this field of interest. Also, this study can be useful and, maybe, subject of debate for legal persons before applying for a loan. Moreover, it can provide different perspectives regarding the most suitable methods and techniques to be used in this area.

The remaining of the study is developed as follows. Section 2 presents the data, drawing attention to the relevance of this database for the Romanian banking sector. Section 3 contains the recommendations of the Romanian banks' employees regarding direct investments projects valuation. Section 4 summarizes the results and concludes the study.

2. Survey database and questionnaire

The database includes responses from credit analysts of 20 Romanian commercial banks. The survey is focused on the creditors' approach regarding capital budgeting – the most used criteria, the indicators for risk and return analysis for a direct investment and the practice regarding the model(s) for the discount rate estimation. The survey letters were addressed to the "Credit analyst" of the Romanian commercial banks and the majority of the respondents replied using the Internet. Banks' addresses were obtained from National Bank of Romania's Register[2]. Together, all the surveyed banks (through their employees) account 90.3% of the

[1]http://www.alb-leasing.ro.

[2]http://www.bnro.ro/Registrele-BNR-717.aspx.

total net worth of the Romanian banking market (National Bank of Romania, NBR, 2009). According to NBR (2009), 41 banks operate in Romania, but only 20 of them have over 90% of the net worth on this market.

Respondents were offered the opportunity to make their response anonymously and all of them chose this method. The sample included 42 persons (48.8% women and 51.2% men), with a mean age of 32.9 years, and a median value of 30.5 years. A high percentage of respondents have a higher education diploma, 54.8% of them having postgraduate diplomas, 38.1% graduate diplomas and only 2.4% graduate short term studies (4.8% of the respondents did not reveal their education level).

The survey questionnaire included 9 questions and all of them were closed-ended. In this questionnaire, 4 questions directly referred to credit analysts' points of view and the rest of them were demographic questions. In the following sections, only the questionnaires with complete answers were considered.

3. The results of the survey: capital budgeting criteria used by Romanian credit analysts

Considering the objective of this survey, the questionnaire includes items regarding the criteria most likely to be used by lenders for granting a loan to support a direct investment, the relevant indicators used for this assessment, the risk quantification techniques in capital budgeting and the model/methodology recommended for the estimation of the discount rate.

Firstly, the Romanian lenders were asked to rank the main criteria used in granting a loan for a direct investment project (from 1, the minimal rank, to 8, the maximal one). The main results are presented in table I.

Table I. The main criteria used in granting a loan for a direct investment project

Criterion	Average	Median	Mode
Anticipated performance of the project (based on a feasibility study or a business plan)	6.57	7	8
Loan guarantees	5.86	6.5	7
Corporate credit analysis of the previous financial statements	5.74	6	8
The client's contribution to project financing	5.43	5	5
The long-term relationship with the client	4.63	4	3
Project investment cost	4.05	4	1
Firm's reputation	2.98	3	2
The quality of past collaboration between firm's manager and bank	2.50	2	1

It must be emphasized that credit analysts are concerned especially about the anticipated performances of the project, revealed in the feasibility study or in the business plan. In this context, close attention must be paid to adverse selection and moral hazard issues. Secondly, the Romanian lenders are concerned about the material guaranties, but also about the previous economic performance of the firm and its financial contribution to project financing.

The previous bank/customer relationship or with its manager, the firm's reputation and the investment project cost are less important in granting a loan. One may conclude that the Romanian banks do not consider an expensive investment project as being an obstacle to lend, as long as the financial forecasts are sustainable, the guarantees are certain and cover the credit level, the company finances an important part of the proposed investment project and in the past it had an appropriate behaviour.

The past actions of the firm's manager seem to be less important for the Romanian banks. This fact can help those firms that experience internal corporate governance problems. Generally, according to the main principles of corporate finance and corporate governance, the managers should run the business to maximize the shareholders' wealth, taking also into account the interests of all stakeholders (OECD, 2004). In the case of agency problems between manager(s) and different stakeholders, these issues should be taken into account also by the bank, as it shall become a stakeholder of the firm.

Secondly, Romanian lenders were asked to specify the criteria used in capital budgeting. The results are presented in table II. Having in mind that the respondents had the opportunity to offer multiple answers, the sum of valid percents is higher than 100%. Thus, some respondents considered even 6 indicators as used in the analysis.

Table II. Financial indicators used for investment projects analysis by Romanian credit analysts

Financial indicators	Valid percents*
Profitability index	80.95%
Net present value (NPV)	76.19%
Internal rate of return (IRR)	64.29%
Dynamic payback period	52.38%
Static payback period	14.29%
Accounting rate of return	9.52%
Modified internal rate of return	7.14%

* Valid percents are obtained after eliminating the observations with missing information

The answers divide these indicators into two main groups. The first category includes four fundamental indicators, asked for and analyzed by the majority of the credit analysts – the profitability index, NPV, IRR and the dynamic payback period. In most of the cases, these indicators are combined, the analysts taking into account more than one option. The second category includes less important indicators: the static payback period, the accounting rate of return[3] and the modified internal rate of return. It must be noticed that the dominant standpoint is the same as the recommendations in reference works in the field in US (Ross, Westerfield and Jaffe, 2008), but also in Romania (Stancu, 2007).

The profitability index is the most used criterion to analyse a direct investment project. Its use to the greater extent can be considered normal, due to the fact that the analysis is made from a creditor's perspective. Practically, what matters for a project to be financed, is to have a significant net present value compared with the investment cost.

Almost 76% of the respondents declared they used the well-known NPV criterion in capital budgeting. It is generally accepted that the value added should make the difference between investment projects. This criterion quantifies the performance of a project through its future cash flows, taking into account the risk through the discount rate. The literature considers this criterion the most important evaluation technique and regarding its informational power it is an "almost perfect" indicator (Ross, Westerfield and Jaffe, 2008). It can be noticed that the NPV is also listed on the first position in the results of the questionnaire realized on the Romanian corporate finance professors' points of view (Dragotă et al., 2010).

The internal rate of return implies certain limits compared to the NPV (see Ross, Westerfield and Jaffe, 2008). Almost two-thirds of the respondents use this criterion in their analysis. It is true that it avoids the difficulty of the precise estimation of the discount rate, hence explaining its high importance. The Romanian corporate finance professors place the IRR criterion on the second rank, close to NPV indicator (Dragotă et al., 2010).

[3]The accounting rate of return results from dividing the average annual net profit to the average cost of investment.

The dynamic payback period acknowledges the key principle of the time value of money (this explains the far lesser percent of credit analysts using the static payback period). The Romanian corporate finance professors place the dynamic payback period in the middle of the ranking order, along with the profitability index, according to Dragotă et al. (2010).

Table III. Risk quantification techniques for direct investment projects used by the Romanian credit analysts

Risk quantification techniques	Valid percents*
Sensitivity analysis	54.76%
Scenarios technique	30.95%
The risk is already dealt with in the discount rate	28.57%
Decision tree	16.67%
Real options	16.67%
Monte Carlo method	7.14%
I do not use methods for risk quantification	4.76%

* Valid percents are obtained after eliminating the observations with missing information

Less used indicators by credit analysts are the static payback period, the accounting rate of return and the modified internal rate of return. The accounting rate of return has a low importance from the Romanian professors' perspective, too. Ignoring the time value of money leaded the Romanian corporate finance professors to not often recommend the static payback period (Dragotă et al., 2010). Only 7.14% of the Romanian credit analysts use the modified internal rate of return.

Table IV. Models/Methods to estimate the discount rate used by the Romanian credit analysts

Models/Methods	Valid percents*
The average rate of return for similar projects	43.90%
Risk free rate + Risk premiums (the Build–up model)	39.02%
The average interest rate for firm loans	36.59%
Weighted average cost of capital	21.95%
The inflation rate	19.51%
The average interest rate for deposits (on the market)	12.20%
CAPM	7.32%

* Valid percents are obtained after eliminating the observations with missing information

Regarding the techniques of risk quantification, more than 50% of the respondents use the sensitivity analysis. Other techniques of risk quantification are used to a lesser extent (see table III). Due to the fact that the respondents had the opportunity to offer multiple answers, the sum of valid percents is higher than 100%. In this case, there are respondents that considered even 5 techniques for taking into account the risks.

The sensitivity analysis is appreciated by most of the practitioners in the field; among the respondents, almost 55% declared that they used it. It is a simple and flexible method for identifying the "bottlenecks" of an investment. In the same time, the practitioners use more complex analysis to catch the uncertainty related to an investment project such as the scenarios technique, with more complicated forecasting instruments than the sensitivity analysis. Almost 31% of the credit analysts declared they used this method to establish the risk of each investment project. The subjectivism of these methods for risk quantification may also explain the 28.57%

percentage of the respondents who declared that the risk is already taken into account through discount rate. However, it is to be noticed, that an important part of the respondents (over 16%) use real options, a complex analysis instrument. Regarding the Romanian corporate finance professors' opinion, they consider the sensitivity analysis as the most important criterion of risk quantification in capital budgeting, followed by the scenarios technique and the Monte Carlo analysis (Dragotă et al., 2010).

In order to find out the most used model or method to estimate the discount rate, the respondents were asked to choose one or more of seven possibilities (this is why the sum of the percentages listed in table IV is higher than 100%). Again, it can be noticed that, in some cases, the respondents have chosen even 5 models from 7 for the estimation of the discount rate. The list of their answers is shown in table IV.

It can be noticed that only 21.95% from respondents consider that the weighted average cost of capital is a suitable model for appraising the discount rate, despite the relevant financial literature (Ross, Westerfield and Jaffe, 2008). The most preferred technique for estimation of the discount rate is the rate of return for similar projects: 43.9% of the respondents declared that they use this method to estimate the discount rate. This option can be disputable, because the nature of the investment project and its specificities are not fully taken into account, but is explainable for a lender with a wide range of investment opportunities to be financed. Furthermore, the credit analyst may have detailed information regarding the opportunity cost estimated through the rate of return for similar projects, due to the nature of his activity.

The build-up model may correspond to a more technical approach based on the identification of the different types of risks for each customer. This approach would be similar to the Basel II developments (Chorafas, 2006; Ruthenberg and Landskroner, 2008).

From a theoretical standpoint, the average value of borrowing rate, chosen by 36.59% from respondents, may be considered as a measure of firm's credit risk and can be used to estimate the discount rate in case of full funding of liabilities. The discount rate in this case should capture the risk perceived by the creditor in terms of the cash flow generated by the project for him. An alternative hypothesis can be that creditors cannot estimate precisely the risk of the project, being external analysts of the investment project to be financed. Therefore, they fix a required rate of return – as in the case of the investment projects financed by the European Union[4] – which is easy to control.

The inflation rate is a proxy for the discount rate used by 19.51% from the Romanian credit analysts. Only 7.32% from the respondents recommend CAPM, despite the mainstream of the international financial literature and also the opinions of Romanian corporate finance professors (16.67% of them recommend CAPM, according to Dragotă et al., 2010).

4. Conclusions

It is to be noticed that most of the respondents' opinions are similar to the mainstream financial literature. The profitability index is the most used criterion for capital budgeting, followed by NPV and IRR. The sensitivity analysis is used by almost 55% from the credit analysts. For Romanian lenders, the prevalent criteria to estimate the risk through the discount rate are the average market return for similar projects, the build-up model and the average lending rate, in this order. To a certain extent it can be inferred that Romanian creditors adopt a simplistic approach in choosing the discount rate. The weighted average cost of capital is an alternative for discount rate used only by 22% from the Romanian credit analysts.

These results are useful for the practitioners, providing information on the indicators and techniques suitable for capital budgeting and on their adequacy to the particularities of the Romanian economy.

[4]The discount rate used for the valuation of projects financed by European Union through structural funds was 5% in real terms (European Union, 2006).

Acknowledgement. *This work was supported by CNCSIS –UEFISCDI, project number PNII – IDEI code 1820/2008. The authors are grateful to all the persons who kindly answered the questionnaire. The authors wish to thank to the INVESTEVAL-2010 Workshop and to International Conference "Financial and Monetary Stability in Emerging Markets" (Bucharest Academy of Economic Studies) participants. We received very useful comments from Professor Dalina Dumitrescu and the anonymous referees. Also, the authors are grateful for the help provided by Cristina Morar Triandafil and Geanina Mocanu. The remaining errors are ours.*

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