THE PERFORMANCE OF EUROPEAN FUNDED PROJECTS

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ABSTRACT
The anfractuous integration of Romania in the European Union implies a complex process of modernization and structural reorganization. One of the most important aspects of this process is the economical efficiency. In the perennial context of the economic crises, enterprises, more than ever, have to follow a complex process of reorganization in order to respect the community rules and standards.
In order to fulfill this objective, the Romanian enterprises are encouraged by the possibility of receiving non-refundable funds from the European Union (80%) and Romanian Government (20%). The lack of any advertising and public relation campaigns about the process of receiving these kinds of funds has often put the final beneficiary in a predicament. Most of the Romanian investors have no idea what their obligations imply, they are focused on the idea that the money they receive needn't be refundable.
The present article means to analyze the way the European funded projects are implemented, focusing mainly on the costs and obligations that the investors enter. The non-refundable European funds are an excellent opportunity for the business environment as long as the beneficiaries are aware from the beginning of the "social and institutional cost" of this process.

KEYWORDS: *cash-flow, grant, IRR*

JEL CLASSIFICATION: *F35, F36*

1. INTORDUCTION

Since the 1st of January 2007 Romania has been a full right member of the European Union. Having this position, our country receives non-refundable funds, available through projects, for the development and reducing the socio-economic gaps/disparity in comparison with the other members.
Romania presently has several financing programs with different levels of aid intensities (depending on the kind of eligible beneficiaries and the type of investment funded), the most relevant of them are:

- National program for rural development 2007-2013
- The operational program Increase of economic competitiveness
- The operational program for Human resources development
- The operational program for environment
- The operational program for transport
- The operational program administrative capacity development.

The magnitude and complexity of the non-refundable funds do not admit an exhaustive analysis of the problem, only in case of studies involving teams formed by specialists in this issue.

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For this present analysis we chose a line of funding from the National Program for Rural Development 2007-2013, the third axis - "Improving the quality of life in rural areas and diversification of the rural economy", 313 Measure - "Encouragement of tourism". This line sets the overall objective of financing the development of tourism activities in rural areas in order to help increase employment and alternative income, as well as increasing the attractiveness of rural areas (EC, 2009; EC, 2005; MARD, 2009).
Given this ample general objective, within the 313 Measure we have four kinds of investments, namely: a) Investment in tourism accommodation infrastructure (this component is broken down in turn into agro-tourism and rural tourism), b) Investments in recreational activities, c) Investment in small-scale infrastructure such as information centers, tourism signs, etc.. and d) development and / or marketing of tourism services relating to rural tourism (PARDF, 2012).
Another effect of the extensive overall objective is the diverse range of eligible applicants. Eligible within the 313 Measure are: micro-enterprises, freelancers, local authorities and NGOs.

2. MATERIALS AND METHODS OF RESEARCH

In the present material we performed an analysis of a hypothetical project implemented by a micro-enterprise, within the component "Investment in tourism accommodation infrastructure" (rural tourism). In this example, the non-refundable financial aid is 50% of the eligible value of the project (but no more than € 200.000). The total value of the project is 496.000 Euros, of which the eligible amount is 400.000 Euros (this value was chosen since it covers the costs of a bed and breakfast of four daisies (the equivalent of four stars) with ten double rooms and a restaurant) and ineligible value – 96.000 Euros (which is VAT, which is not funded by the European Union as it is recovered from the National Tax Administration Agency). The implementation period of this hypothetical project is one year.
Given the value of the non-refundable financial aid and of the eligible value of the project, the investor would receive 200.000 Euros from structural funds.
The problem that is overseen by many potential investors is that the European funding is granted on the principle of reimbursement of expenses made by the beneficiary. Many investors do not take into account the additional costs associated with this principle (short-term financing).
Another omission made by potential beneficiaries is related to the monitoring period. A beneficiary who has implemented a project with non-refundable funds within the 313 Measure should keep the bed and breakfast into service and do not to alienate/sell it at least five years after completion. During this monitoring period the beneficiary must maintain all of the jobs foreseen in the project. In this example, (considering the value of 200.000 Euros of the non-refundable financial aid) the appropriate number of jobs created by the project must be eight (given the selection criterion no. 3 non-refundable financial amount / number of jobs created ≤ 25.000 Euros (PARDF, 2012).
These two omissions generate additional financial efforts for potential beneficiaries that can be considered a cost of the non-refundable financial aid. This article tray's to determine the level of these costs and the actual percentage of co-financing of such an investment. To see the differences that arise between the various scenarios with and without the influence of personal costs and the costs of short-term financing, we must take into account two indicators:
a) IRR F/(C) – financial internal rate of return calculated on the investment, quantified by the formula:

$$NPV = -I_0 + \sum_{i=1}^{n} \frac{CF_i}{(1 + IRRF/(C))^i} + \frac{VR}{(1 + IRRF/(C))^n} = 0 \qquad (1)$$

where:
I_0 - is the initial investment (the eligible value + ineligible value of project);
CF_i - is the value of the cash flows generated by the project in operation (flows from investing activities, financial and operational);
VR - residual value, estimated at the end of the time horizon taken into consideration.

b) IRR F/(K) – financial internal rate of return calculated on the value of its own contribution. In this case we use the formula:

$$NPV = -K + \sum_{i=1}^{n} \frac{CF_i}{(1 + IRRF/(K))^i} + \frac{VR}{(1 + IRRF/(K))^n} = 0 \qquad (2)$$

where:
K - is the private co-financing (financing the eligible amount (50%)) + other ineligible costs incurred during the implementation;
CF_i - is the value of the cash flows generated by the project in operation (flows from investing activities, financial and operational);
VR - residual value, estimated at the end of the time horizon taken into consideration. (EC, 2008; Hazen, 2003)
Ignoring the costs of short-term funding (generated by the principle of reimbursement of expenditure already made) and costs related to the number of jobs to be created and maintained during monitoring period, the investment has a IRR F / (C) -1.95% , which reveals that the project is not attractive for financing from a bank or investor. Also there is an IRR F / (K) of 10.12%, showing that through a 50% non-refundable financial assistance, the project would become viable (two indicators detailed in the Table 1 - Variables initial investor).

Table 1. Variables initial investor

	Implementing year	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Investment value	2.083.200					
Cash-flow		55.785	121.441	124.969	128.497	132.025
Residual value						1.344.000
Flow for IRR F/(C)	-2.083.200	55.785	121.441	124.969	128.497	1.476.025
IRR F/(C)	**-1.95%**					
Flow for IRR F/(K)	-1.243.200	55.785	121.441	124.969	128.497	1.476.025
IRR F/(K)	**10.12%**					

Source: Own calculations based on data previously presented

The data in Table 1 are based on the following assumptions: the analysis was done in constant prices without the effect of inflation and private co-financing of the project relies on a credit for a period of 20 years, with an interest rate of 10% and a period of grace of 12 months (equivalent to project implementation period). The value of this credit is 50% of the eligible value of the project.
Staff considered is presented in Table 2. The And management and supply functions will be provided by the sole shareholder of the company.

Table 2. Staff minimum variant

No.	**Position**	**Gross monthly salary – lei -**
1	Shareholder	0
2	Chef	2.200
3	Waiter	1.700
4	Maid	1.700
5	Reception staff	1.900
6	Accountant	2.000
Total		**9.500**

Source: Average estimate

Table 3. Staff optimal variant

No.	**Position**	**Gross monthly salary - lei -**
1	Manager	2.500
2	Supply staff	2.000
3	Chef	2.200
4	Waiter	1.700
5	Maid	1.700
6	Reception staff	1.900
7	Accountant	2. 00
8	Travel Guide	2.000
Total		**16.000**

Source: Average estimate

Based on the specifications in the Guidelines for Applicants on measure 313, in order to get a good score and therefore to be selected for funding a project needed to create jobs in proportion to its value, i.e., for each 25.000 euro received as grant the applicant must be created and maintained for at least five years a full-time job.
Table 3 presents the structure of personnel as specified by guide (in quantitative terms). It is also well balanced, covering all activities that might take place in a boarding houses.
In Table 4 the two indicators calculation is done, this time taking into account the jobs that must be created.

Table 4. Project attractiveness with correction for jobs

	Implementing year	Operating period				
		Year 1	Year 2	Year 3	Year 4	Year 5
Investment value	2.083.200					
Cash-flow		-44.055	21.601	25.129	28.657	32.185
Residual value						1.344.000
Flow for IRR F/(C)	-2.083.200	-44.055	21.601	25.129	28.657	1.376.185
IRR F/(C)	**-7.52%**					
Flow for IRR F/(K)	-1.243.200	-44.055	21.601	25.129	28.657	1.376.185
IRR F/(K)	**2.50%**					

Source: Own calculations based on data previously presented

Cash Flow Estimation was done based on Annex 1. It appears that after this correction the attractiveness of the project significantly decreased, but not so as to be abandoned and unfunded (IRR F / (K)> 0%).

Table 5.1. Extract from cash flow during the implementation - small credit

Period		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Net cash flow for the period	-	509.600	161.000	-7.000	-330.400	161.000	-330.400
Available cash of the previous month	200	200	509.800	670.800	663.800	333.400	494.400
Available cash at end of period	200	509.800	670.800	663.800	333.400	494.400	164.000

Source: Average estimate

Table 6.2. Extract from cash flow during the implementation - small credit

Period	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total year
Net cash flow for the period	161.000	-330.400	161.000	-330.400	161.000	-7.000	-21.000
Available cash of the previous month	164.000	325.000	-5.400	155.600	-174.800	-13.800	200
Available cash at end of period	325.000	-5.400	155.600	-174.800	-13.800	-20.800	-20.800

Source: Average estimate

Analyzing the cash flow for the implementation period we can see that in the eighth month, the company runs out of available cash, a delicate problem, most often synonymous with insolvency. Although hypothetically the company would pass over this impasse, because the amount involved is relatively small, in the tenth month the cash requirements to continue are much higher.
This situation occurs due to the gap of about a month, between the investment and the reimbursement (the grant). The investment is made in five installments (thus the needs for cash are minimal), during 1, 4, 6, 8 and 10. These invoices are paid in proportion to the investment company and made grant aid is granted in months: 2, 5, 7, 9 and 11.

Another cost factor is determined for the cash depletion rates. The negative cash flow is covered in the fourth year of the operation period (see Table 6).

Table 7. Extract from cash flow from operating period - small credit

Period	Implementing Year	Operating period				
		Year 1	Year 2	Year 3	Year 4	Year 5
Net cash flow for the period	-	-44.055	21.601	25.129	28.657	32.185
Available cash of the previous month	-20.800	-20.800	-64.855	-43.254	-18.126	10.531
Available cash at end of period	-20.800	-64.855	-43.254	-18.126	10.531	42.716

Source: Average estimate

In order to implement the project, the company will have to contract a greater loan, which allows it to sustain the interest expenses and differences arising between payments and reimbursements.
The second scenario in which the company relies on a credit (under similar conditions: 20 years repayment period, interest of 10% and 12 months grace period), but the higher value of the loan, surmounts the problems outlined above.
In this situation, the grater loan allows the company to operate under normal conditions, avoiding liquidity risk without lags during the implementation period (see Table 7.1 and 7.2) or in the first five years of the operational period (see Table 8).

Table 8.1. Extract from cash flow during the implementation - high credit

Period		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Net cash flow for the period	-	866.600	158.000	-10.000	-333.400	158.000	-333.400
Available cash of the previous month	200	200	866.800	1.024.800	1.014.800	681.400	839.400
Available cash at end of period	200	866.800	1.024.800	1.014.800	681.400	839.400	506.000

Source: Recalculate from Scenario 1

Table 9.2. Extract from cash flow during the implementation - high credit

Period	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total year
Net cash flow for the period	158.000	-333.400	158.000	-333.400	158.000	-10.000	303.000
Available cash of the previous month	506.000	664.000	330.600	488.600	155.200	313.200	200
Available cash at end of period	664.000	330.600	488.600	155.200	313.200	303.200	303.200

Source: Recalculate from Scenario 1

From Table 7.1 and 7.2 we can see that the available cash at the end of each period is positive, denoting the fact that the company has sufficient cash resources to operate normally.

Table 10. Extract from cash flow from operating period - high credit

Period	Implementing Year	Operating period				
		Year 1	Year 2	Year 3	Year 4	Year 5
Net cash flow for the period	-	-97.080	-29.624	-24.296	-18.968	-13.640
Available cash of the previous month	303.200	303.200	206.120	176.496	152.199	133.231
Available cash at end of period	303.200	206.120	176.496	152.199	133.231	119.591

Source: Recalculate from Scenario 1

As a side effect of the higher credit we can observe (see Table 8) that the cash flows generated by the investment are lower than those caused by lower loan (see Table 6), this being blamed on higher interest rates

Table 11. Annual rates of both loans

	Large Credit	Small Credit	Differences
Loan Value	1.200.000	840.000	**360.000**
The value of annual installments	60.000	42.000	**18.000**

Source: Own calculations based on data previously presented

The two credits are obtained in similar conditions, both repayment periods are 20 years, but because of amounts differ, the values of the annual rates differ as well.

Table 12. Annual interest of both credits

Amount of interest	Implementing year	Operating period				
		Year 1	Year 2	Year 3	Year 4	Year 5
Large Credit	120.000	116.750	110.750	104.750	98.750	92.750
Small Credit	84.000	81.725	77.525	73.325	69.125	64.925
Differences	**36.000**	**35.025**	**33.225**	**31.425**	**29.625**	**27.825**

Source: Own calculations based on data previously presented

Interest calculation was performed by applying 10% annual margin outstanding of the loan (the amount remaining to be paid).

Table 13. The additional cost of the higher credit

Discount rate	5%					
Period (Years)	**0**	**1**	**2**	**3**	**4**	**5**
Difference in credit	54.000	35.025	33.225	31.425	29.625	27.825
Discount factor	1	0,95238	0,90702	0,86383	0,82270	0,78352
Difference in loan discounted	54.000	33.357,14	30.136,05	27.146,1	24.372,56	21.801,62
Discounted total costs	**190.813,47**					

Source: Own calculations based on data previously presented

In terms of time, the costs of credit will be carried forward, to ensure the unit of analysis, they are discounted (the discount rate used is 5% without the effect of inflation).

Table 14. Project attractiveness after correction for jobs and correction for necessary credit

Variant 1	**Implementing year**	**Operating period**				
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Investment value	2.083.200					
Cash-flow		-97.080	-29.624	-24.296	-18.968	-13.640
Residual value						1344000
Flow for IRR F/(C)	-2.083.200	-97.080	-29.624	-24.296	-18.968	1.330.360
IRR F/(C)	-10.30%					
Flow for IRR F/(K)	-1.243.200	-97.080	-29.624	-24.296	-18.968	1.330.360
IRR F/(K)	-1.26%					

Source: Own calculations based on data previously presented

Recalculating the IRR F / (C) and IRR F / (K) taking in to account the high credit (see Table 12) we can see that the attractiveness of the project has fell drastically, both indicators have negative values . This requires a rethinking of the entire project, the most viable solution is the reduction of the investment value, introducing new products that bring additional income or finding more attractive funding sources).

3. RESEARCH RESULTS

Plotting the evolution of the two indicators before and after making the corrections, it appears that both indicators registered a strong downtrend.

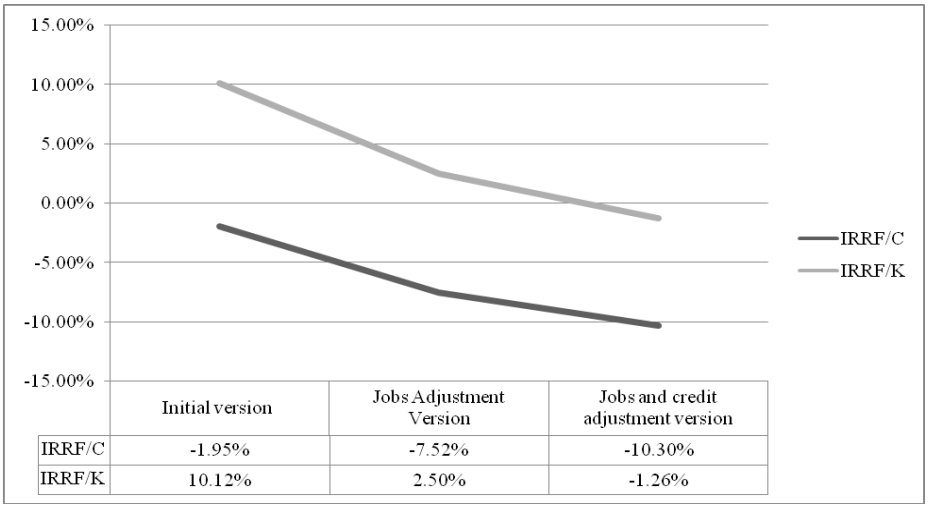

Figure 1. Evolution IRR/ C and IRR/K
Source: own representation of the results

The analysis of the indicators illustrates the fact that the project initially seemed viable, but now it has to be rethought because even with the non-refundable financial support it can't be profitable.
Investors who do not know the system of awarding grant can reach difficult situations such as: projects blocked because the beneficiary has no more financial resources, facilities constructed through grant projects that have to be kept in operation although no profit is being made etc.

Table 15. Actual percentages of co-financing

Category	- Value -	- Percentage -
Eligible value	1.680.000,00	100.00%
Grant	840.000,00	50.00%
Private contribution	840.000,00	50.00%
Real Grant	**840.000,00**	**33.28%**
Real Private contribution	**1.120.813,47**	**66.72%**

Source: Own calculations based on the scenarios previously presented

If we consider the additional cost generated by a higher loan necessary for covering the gap between the investment and the reimbursement of expenses, the grant aid intensity (expressed as percentage) decreases from 50% to 33.28%. This new value can be called the actual grant aid.
A counter argument could be that the investor has sufficient financial resources and a credit is not needed. However, in this case he blocks a certain amount of money for a determined period of time, during which he can't use it. Although this cost is difficult to place in a cash flow, as an opportunity cost, it exists, and interferes on a long-term perspective, the investor renouncing the use of those amounts, which could generate income.

CONCLUSIONS

Grants are an opportunity for all businesses and a diverse pallet of investors. The decision to start such a project must be analyzed very well, because all sources of capital even "grants" have a specific cost, sometimes hard to quantify explicitly.
In the case of grants, the cost derives mainly from the social side and the process of reimbursement.
However, through a detailed economic and financial analysis of the project that takes into account of all the elements, both obvious and most discreet, the success of the investment can be ensured and thus fulfill all the objectives and commitments of the grant recipient.

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