FINANCIAL ANALYSIS - METHOD OF INVESTMENT ASSESSMENT

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Abstract

Financial analysis is a method of substantiation decisions in private sector. The paper aims to answer the following questions: Which are the stages of financial analysis? Which are the indicators used in the analysis financially? Which are the limits of economic efficiency indicators to determine whether the investment is profitable or not? The answer to these questions was based on the analysis and evaluation of investment projects in agriculture, calculating the following indicators: the investment, operating income, operating expenses, operating income rate, payback period, return on invested capital the cash flow coverage ratio, leverage ratio in the medium and long term, net present value, available cash at the end of the period.

Keywords: investment, financial analysis, indicator

Financial analysis is a method used to estimate the efficiency of investment.

The main purpose of financial analysis is to determine the sustainability of investment. Financial indicators are calculated: financial net present value (FNPV) and internal rate of return on equity (RIRF) and in terms of return on investment costs, FNPV (C) and RIRF (C), and return on national capital FNPV (K) and FRR (K).

The case study was conducted based on an investment in Suceava county, township Dorneşti, which involves the purchase of agricultural machinery and grain storage silos.

MATERIAL AND METHOD

For details of the analysis and interpretation of financial indicators were used the following research methods: analysis of financially (analysis of accounting records) compraţia, decomposition and generalization of the results, direct observation and statistical analysis. Base of information on the case study was the statistical and accounting records in S.C. NORD INTERMED CONSULTING GROUP S.R.L. Dorneşti, Suceava County.

RESULTS AND DISCUSSIONS

The methodology used in financial analysis to determine the financial return is approaching cash flow (DCF).

Assumptions were considered:

1. there were taken into considerations only cash inflows and outflows (depreciation, reserves and other accounts that do not correspond to actual flows are ignored);
2. it was determined the investment cash flow for the scenarios mentioned above;
3. there have been updated all flows.

Different definitions of net cash flows to calculate investment performance indicators used in the financial analysis (as in international practice for evaluating investment) should not be confused with "free cash flow" from other accounting conventions, especially those used in standard accounts companies.

Inflows include:

- Any possible revenue from the sale of goods and services;
- Net cash-flow resulting from the management of financial resources.

Dynamics inflows is measured relative to output streams. These are related by:

-investment costs, operating costs;
-repayment of loans and interest payments;
-taxes;
-other payments (eg, dividends, retirement bonus, etc..).

Financial analysis should be carried out by subsequent calculations interconnected:

1. total investment costs;
2. operating costs and total revenues;
3. financial profitability of investment costs: FNPV (C) and FRR (C);

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4. sources of funding;
5. financial sustainability;
6. financial return to the national capital: FNPV (K) and FRR (K).

Analysis financially - case study

The case study was conducted at SC NORTH INTERMED CONSULTING GROUP SRL in village Dorneşti, Suceava county, based on an investment involving the purchase of agricultural machinery and grain storage silos. Investing has a total value of £ 7884454.

To assess the efficiency of investment indicators were calculated::
• The investment;
• Operating revenues;
• operating expenses;
• The rate of operations;
• The payback;
• Return on invested capital;
• the cash flow coverage ratio;
• The rate of borrowing long and medium term;
• Net present value;
• Available cash at the end.

The steps for calculating these indicators are:
• Forecast revenues;
• Forecast expenditure;
• Forecast of profit and loss;
• The forecast balance sheet;
• Cash flow projections;
• Calculation of economic efficiency indicators.

The criteria (limits indicators) for determining the efficiency and viability of the project are:

1. Revenues must be greater than the costs;
2. Revenue is to be increased from one year to another;
3. Net result for the year, detailed the analysis of profit and loss must be positive and increasing throughout the period under review;
4. It is achieving equality balance sheet (assets = liabilities) for each year covered;
5. Cash flows must be positive and increasing for each year of the period under review;
6. Rate of operations (RRE) - must be at least 10%;
7. Payback time (Dr) - maximum of 12 years;
8. Return on invested capital (RRC) - must be at least 5%;
9. The cash flow coverage ratio (Rafn) - must be greater than or equal to 1.2;
10. Available cash at end of period - must be positive;
11. Net present value (NPV) - must be positive
12. Borrowing rates on medium and long term (s) - up to 60%.

To forecast revenues and expenditures to the areas left to be cultivated by the company in the period and the yields obtained for each crop *(tab.1)*

Table 1

Crops and yields obtained after the investment

Indicator	Cultivated area - ha	Average production - kg/ha	Total production - kg	Price lei/kg
Potato	130	28800	3744000	0.65
Wheat	130	4000	520000	0.75
Sugar beet	160	41000	6560000	0.35
Barley	150	4900	735000	0.55
Oats	150	4100	615000	0.55
Pastures	148	13900	2057200	0.15
Hay	132	9700	1280400	0.25
TOTAL	1000	-	-	-

The cash flow projection *(tab.2)* were taken into account the following elements:

A. Inputs:
-value forecast revenue receipts;

B. Outputs:
-payment of loan installments amounting to lei 4259246;
-payment of interest on the loan;
-pay materials;
-pay labor;
-taxes, payments;
-other.expenses;

Table 2

Cash flow projections

	OPERATION / PERIOD		Year 1	Year 2	Year 3	Year 4	Year 5
I.	**Investing activities and financing - payment**						
	Repayments of medium and long term loans		283.283	283.283	283.283	283.283	283.283
	Interest payments on medium-and long-term loans		297.447	277.617	257.788	237.958	218.128
	Cash flow from investing and financing activities		**-580.730**	**-560.900**	**-541.071**	**-521.241**	**-501.411**
II.	**OPERATING ACTIVITIES**						
.	Receipts from operating activities, including VAT		3.479.643	3.553.725	3.632.014	3.661.649	3.692.351
	Total cash inflows		**3.479.643**	**3.553.725**	**3.632.014**	**3.661.649**	**3.692.351**
	Payments for operating activities, including VAT (if applicable), of which		**1.961.762**	**1.868.418**	**1.935.932**	**1.959.750**	**1.983.737**
1.	Raw materials		892.942	919.730	965.716	984.111	1.002.506
2.	Other materials		80.348	82.759	86.897	87.724	88.552
3.	Energy and Water		7.140	8.330	9.163	9.496	9.996
5.	Costs for staff		234.000	241.020	253.071	255.481	257.891
6.	Social security		64.397	66.329	69.645	70.308	70.972
8.	Taxes, fees and similar payments		534.185	534.185	534.185	534.185	534.185
9.	Other payments related to operations		148.750	16.065	17.255	18.445	19.635
	Flux profit before tax payments / turnover and VAT adjustment		1.517.881	1.685.307	1.696.082	1.701.899	1.708.614
	Payments / receipts for taxes (VAT)		446.588	480.100	485.067	486.756	488.616
	Cash flow from operating activities		1.071.293	1.205.207	1.211.015	1.215.143	1.219.998
III.	**Cash flow (cash flow)**						
	Net cash flow for the period		490.563	644.307	669.944	693.902	718.587
	Available cash of the previous period	946	946	491.509	1.135.816	1.805.760	2.499.662
	Available cash at end of period	946	491.509	1.135.816	1.805.760	2.499.662	3.218.249

Calculation of financial indicators *(tab. 3)* was based on cash flows above and the following formula:

1. Rate medium and long term borrowing

$$r_I = \frac{TD_i}{TA_i} \times 100,$$

Where: TDi = total medium and long-term debt in year i; TAi = total assets in year i

2. Net present value (NPV):

$$VAN = \sum_{i=1}^{5} \frac{FN_i}{(1+r)^i} + \sum_{i=6}^{12} \frac{FN_i \exp lt}{(1+r)^i} - VI,$$

Where: FNi = net cash flow year i; Fni exp lt = operating cash flow in year i, Vi = value of the investment;

Table 3

The financing of the investment indicators

FINANCIAL INDICATORS							
Year		MU	Year 1	Year 2	Year 3	Year 4	Year 5
No.crt.	Specification		Valoare				
1	Investment value	RON	6.628.663				
2	Operating income	RON	2.924.070	2.986.323	3.052.112	3.077.016	3.102.816
3	Operating expenses	RON	1.781.472	1.704.460	1.763.649	1.784.156	1.804.803
4	Rates of operations	%	39.08%	42.92%	42.22%	42.02%	41.83%
5	Duration of payback	ANI	10.5111				
6	Rates of return on capital invested	%	16.16%	18.18%	18.27%	18.33%	18.40%
7	Rates cover the cash flow number	Nr.	1.8447	2.1487	2.2382	2.3312	2.4331
8	Rates borrowing long and medium term	%	59.89%	54.84%	50.05%	45.55%	41.36%
9	Discount rate		8%				
10	Net Present Value	RON	231.773				
11	Available cash at end of period	RON	491.509	1.135.816	1.805.760	2.499.662	3.218.249

CONCLUSIONS

The results obtained within this paper are:

Financial analysis is a method used to estimate the efficiency of investment.

Decision making in the private sector to invest involves the following steps: forecast revenue, forecast expenditure, forecast profit and loss account, balance sheet forecasting, cash flow projections, the calculation of economic efficiency.

In the financial analzsis the indicators used are: the investment, operating income, operating expenses, operating income rate, payback period, return on invested capital, cash flow coverage rates through rate on medium and long term borrowing, net present value and available cash at the end.

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