CONSIDERATION ON RISKS AVOIDANCE THROUGH LEGAL PROVISIONS IN INVESTMENTS (CASE STUDY)

Elena GÎNDU[1], Aurel CHIRAN[1], Andy-Felix JITĂREANU[1], Adriana SPÎNACHE (MĂGUREANU)[1]

e-mail: egindu@uaiasi.ro

Abstract

The investment goal is to create and develop a tourism infrastructure, for the natural resources capitalization and improvement of tourism services in Fălticeni, Suceava County.
Economic and financial analysis of the proposed investment has started from the cost-benefit analysis, taking into account that the new infrastructure leisure activities will be incorporated in the work done by the town of Fălticeni. Operational costs of the new infrastructure will be covered by financial resources of Fălticeni, from sold tickets.
The revenue forecast was based on the availability of potential tourists pay for services such. In the economic and financial analysis, cash inflows will use the market prices as a starting point. The leisure structure activity is expected to begin in the first year after the investment.
In order to determine the monthly receipts of Fălticeni, we took seasonality into account. During a year, three tourism periods were identified: **full - season** - for a period of 119 days/year; **intermediate season** - a period of 106 days/year; **off - season** - with a duration of 141 days/year. To minimize risks, new landscaped spaces will be provided. Calculation of NPV and IRR indicators was done starting from cash flows generated by the project, to which the change in working capital and residual value were added. Cash flow result was updated and then used to determine the NPV and IRR indicators.

Key words: analysis, investment, tourism

Research on improvement of financial and economical analysis indicators of investments are a natural necessity of the social and economical status of Romania's integration into the European Union (Anghel I. and Dinu E., 2000; Butărescu R., 1997; Chiran A. and all., 2010; Isfrănescu A. and all., 2002; Mironiuc Marilena, 2006). In this context, the development of regional economy will focus on increasing the use of local resources, on multi-activity and economic diversification, on integrated development and transition towards sustainable development (Antonescu D., 2003; Bârsan Maria, 2000; Mateoc-Sârb Nicoleta, 2007).

Therefore, to achieve these goals, regardless of the funding source, any investment should be analyzed in terms of financial and economic viability.

The authors have proposed to emphasize the advantages and disadvantages of the cost-benefit and financial analysis, the limits of economical efficiency indicators and how they can be improved, which is the correlation between analytical indicators, economic growth and sustainability of investments (Boardman, A. and all., 2004; Cristelecan L., 2002; Despa R. and all., 2005; Chiran A. and all., 2004).

Economical and financial analysis of investments was based on a case study in Fălticeni, Suceava county, which referred to **"Starting a leisure infrastructure Nada Florilor"**, given the fact that the new infrastructure leisure activity will be included in the work done by the town of Fălticeni.

The economical analysis emphasizes the sustainable effects of major investments, usually carried out by public institutions, demonstrating the efficiency and effectiveness of the social impactdegree (Bold I. and all., 2003; Robu V. and Georgescu N., 2009).

The social and economical efficiency results from the investment impact, both in terms of target group and direct beneficiary level (Dumitriu M., 1994; Gîndu Elena, 2012).

Investment efficiency is supported by the institutional impact of investment, particularly at municipality level, through benefits resulting from the collection of taxes to the local budget (Peumans H., 1971; Românu I. and Vasilescu I., 1993).Taxes and fees resulting from private

[1] University of Agricultural Sciences and Veterinary Medicine "Ion Ionescu de la Brad" of Iaşi

investments are estimated to be achieved, as a result of effort, but also salary benefits, thereby increasing the administrative capacity of the town hall of Fălticeni.

MATERIAL AND METHODS

The study was conducted at the Investment Division of the Fălticeni city hall, Suceava county, and aimed at the creation and development of tourism infrastructure for exploitation of natural resources, increasing the quality and efficiency of financial and economic tourism services in the studied area.

To assess the predictable effects and evaluate the social and economical impact, we used a scale of qualitative indicators, from *least satisfactory* to *excellent*. To minimize risks, new landscaped spaces will be insured. The estimation of insurance charges was based on actual costs regarding a building, with a value equal to the recreational infrastructure. NPV and IRR indicators calculation was made based on the cash flows generated by the project, to which the variation in working capital and residual value were added. The resulting cash flow was updated and then used to determine the NPV and IRR indicators.

RESULTS AND DISCUSSION

For annual revenue forecast in the first year after the investment and up to the 20th year of analysis, annual revenues for Fălticeni were stable (Table 1):

Table 1

The forecast of investment related revenue of Fălticeni, Suceava county

No.	Indicators	U.M.	Year 1	...	Year 20
1	Income from recreational activities - indoor pool	lei	723.680	...	723.680
2	Income from recreational activities - swimming pool and adult pool	lei	132.480	...	132.480
3	Income from recreational activities - children swimming pool	lei	98.613	...	98.613
4	**Total annual revenue**	**lei**	**2.149.773**	**...**	**2.149.773**

Source: taken after the primary records of the Fălticeni City Hall

In order to forecast annual expenditure, the type of activity and expenditure incurred by it has been taken into account (Table 2).

The main categories of expenditures generated by this investment relate to the following: other administrative expenses (pool treatment);

To ensure the necessary related materials, an average annual expenditure of 171,982 lei has been estimated.

- other expenses (utilities expenses), of which:
  - electricity costs;
  - expenditure on water and sanitation;
  - gaseous fuel costs.

Table 2

Forecast of investment related expenses in Fălticeni, Suceava county

No.	Indicators	U.M.	Year 1	...	Year 20
1	**Material expenses, which**	**lei**	**171.982**	**...**	**171.982**
1.1	Other material costs (pool treatment and consumables)	lei	171.982	...	171.982
2	**Other external expenses, of which:**	**lei**	**1.182.375**	**...**	**1.182.375**
2.1	Expenses for electricity	lei	644.932	...	644.932
2.2	Expenditure on water and sanitation	lei	107.489	...	107.489
2.3	Expenditures of gaseous fuels	lei	429.955	...	429.955
3	**Labor expenses, of which:**	**lei**	**89.136**	**...**	**89.136**
3.1	Salary expenses	lei	50.400	...	50.400
3.2	Expenditure on social security contributions	lei	38.736	...	38.736
4	**Expenses for external services, including:**	**lei**	**81.981**	**...**	**81.981**
4.1	Expenses for maintenance and current repairs	lei	29.006	...	29.006
4.2	Building insurance expenses	lei	38.675	...	38.675
4.3	Promotion expenses	lei	14.300	...	14.300
5	**TOTAL EXPENSES**	**lei**	**1.525.474**	**...**	**1.525.474**

Source: Own calculations

- Consumption of electricity was determined based on the consumers of the recreational infrastructure and depending on seasonality.
- Energy costs were calculated based on the seasonality, on the forecasted consumption and

distribution operator's rates, respectively, 0.54 Euro/kw (excluding VAT).

- For the provider of water and sewerage, the following prices were used excluding VAT):
  - water consumption: 2.65 lei/m^3,
  - sewage: 1.64 lei/m^3.
- Thermal energy costs were calculated based on the monthly heat demand, seasonality and number of winter months (during which fuel consumption peaks). The heating price practiced by the provider was 0.095 lei/Kw (without VAT).
- The prediction of labor costs was made on the assumption that four people will be employed. The projected occupational structure comprises the following posts: two swimming instructors and two guards. Spending on maintenance and current repairs of the construction was estimated at 29,000 lei/year, representing 0.03 % of the construction value. To minimize risks, new landscaped spaces will be insured. The estimation of insurance costs was made on the basis of actual expenditure on providing a building with a value equal to the recreational infrastructure. For investment promotion, the following annual expenditures were estimated (Table 3):

Table 3

Annual expenditure for investment promotion

Name of promotional materials	Pieces	Price Lei/ piece	Total value Lei/ year
Custom folders	500	7	3500
Audio spots	10	730	7300
Brochures	1000	1,5	1500
Flyers	2000	1	2000
Total	-	-	14300

Source: Own calculations

In the reference variant, it can be seen that the analyzed time horizon, according to input data, the newly created infrastructure can support the operating costs of the proposed financial allocations, with no negative cumulative cash flow (Table 4):

Table 4

Cash flows generated by the investment made in Fălticeni, Suceava County – thousand

Indicators	Implementation Period		Post Implementation Period		
	Year 1	Year 2	Year 1	...	Year 20
The activity of operating					
Cash inflows	4.995.5	7.743.6	2.149.8	...	2.149.8
Cash outflows	-4.995.5	-7.743.6	1.870.2	...	1.870.2
Net operating cash flow	-	-	279.6	...	279.6
Financial activity					
Taxes, fees, payments (income tax and tax on buildings)	-	-	-161.2	...	-161.2
Flux VAT	-	-	344.7	...	344.7
Total net annual cash flow	-	-	463.1	...	463.1

Source: Own calculations

The activity proposed through the project is sustainable because the cumulative cash flows are positive. In determining sustainability, depreciation was not taken into account, therefore resulting in positive cash flows. It is estimated that the investment **"Starting a leisure infrastructure Nada Florilor"** has the financial capacity to sustain itself, given that the aggregate undiscounted cash flows are positive throughout the entire project.

The investment value was split over two years, because the investment is made within this period. In the first year, investment will be worth 4.995,546 lei and in the second year, amounting to 7.743,644 lei.

Forecasted cash flows generated by the investment are identical in all years of analysis, as revenues and expenses are constant over time (Table 5).

In the cash flow forecast, non-cash expenses (amortization, provisioning expenses etc.) have not been taken into account.

Financial analysis indicators (internal rate of return (IRR) and net present value financial investment (NPV)) were calculated using the following formulas:

Internal rate of return - IRR, which is defined as the interest rate that zeroed net present value of investment:

Table 5

Cumulative total cash flow generated by the investment in Fălticeni, Suceava county – thousands lei

YEARS									
1	2	3	4	5	6	7	8	9	10
463.1	926.2	1389.4	1852.5	2315.6	2778.7	3241.8	3704.9	4168.1	4631.2
YEARS									
11	12	13	14	15	16	17	18	19	20
5094.3	5557.4	6020.5	6483.7	6946.8	7409.9	7873.0	8336.1	8799.2	9262.4

Source: Own calculations

$$VAN = \sum_{t=0}^{n} (S_t /(1+RIR)^i) = 0$$

where:

S_t:the balance of the cash flows at time t

t : number of years, from 1 to...n.

To determine the net present value financial indicator of investment (NPV), the following equation for calculating was used:

$$VFNA = \sum_{t=0}^{n} a_t S_t = \frac{S_0}{(1+i)^0} + \frac{S_1}{(1+i)^1} + \cdots + \frac{S_n}{(1+i)^n},$$

where:

S_t :the balance of cash flow at time t (net cash flow)

a_t :is chosen to update the financial factor at time t

To calculate the NPV and IRR indicators, the financially discount rate of 9 % was taken into account.

The working capital of the investment has shown an upward trend (Table 6):

Table 6

Changes in working capital related to the investment made in Fălticeni, Suceava county – thousands lei

YEARS									
1	2	3	4	5	6	7	8	9	10
50	55	59	65	71	77	84	91	100	109
YEARS									
11	12	13	14	15	16	17	18	19	20
118	129	141	153	167	182	199	216	236	257

Source: Own calculations

The discount factor used in updating individual values, shifted by 20 years in the future to the reference time, was determined by the following formula (Table 7):

Table 7

The discount factor used to update the cash flow

YEARS									
1	2	3	4	5	6	7	8	9	10
0,9174	0,8417	0,7722	0,7084	0,6499	0,5963	0,5470	0,5019	0,4604	0,4224
YEARS									
11	12	13	14	15	16	17	18	19	20
0.3875	0.3555	0.3262	0.2992	0.2745	0.2519	0.2311	0.2120	0.1945	0.1784

Source: Own calculations

$$f_a = (1+a)^{-t}$$

where:

a – update rate;

t – the number of years taken into calculation by the update

The resulting cash flow has been updated (Table 8) and then used to determine the NPV and IRR indicators.

Table 8

Updated cash flows of the investment made in Fălticeni, Suceava county – thousands lei

YEARS									
1	2	3	4	5	6	7	8	9	10
424,9	389,8	357,7	328,1	301,0	276,2	253,48	232,59	213,3	195,7
YEARS									
11	12	13	14	15	16	17	18	19	20
179,5	164,7	151,1	138,6	127,2	116,7	107,1	98,2	90,1	1.001,4

Source: Own calculations

NPV and IRR indicators determination was made based on the cash flows generated by the project, to which the working capital variation and residual value were added (Table 9):

Table 9

Financial analysis indicators

INDICATORS	U.M.	VALUE
Financial internal rate of return on investment - RIRF/C	%	0.91
Financial net present value of the investment- VANF/C	Lei	- 6.965.097

Source: Own calculations

Therefore, updated cash flow for the 20th year has a much higher value than in other years (1001.4 thousand lei).

The formula for calculating the residual value is:

$Va = FN_{n+1}/k = 463.399/0,09=5.148,875$ *lei,*

where:

Va - residual value;

FN_{n+1}-cash flow in the year following the completion of the analysis period;

K- discount rate.

In calculating the two indicators, the investment value of 12.739,190 lei, with a negative sign, was taken into account.

The residual value has been determined using future net updated cash flow. It was taken into account only in the 20 th year.

Economical analysis involves the identification of indicators that help identify the impact of the investment on the environment. It is possible to use two types of indicators: **qualitative and quantitative indicators**.

Indicators, highlighted in the economic analysis, were identified starting from the work that has done so far by Fălticeni City Hall, being in line with the policy on which it proposes to develop future activities.

For achieving the economical analysis, several phases, from the methodological standpoint, were driven:

Phase I –tax and subsidies corrections and other tax adjustments;

Phase II - corrections for externalities;

Phase III - convert market prices used in the financial analysis in accounting prices.

Economical analysis highlights the effects of sustainable investment, demonstrating the efficiency and effectiveness of the social impact degree.

Social and economical efficiency results from the impact of the investment, both in terms of target group and direct beneficiary level:

- increasing the population health in the city and neighboring villages;
- increasing the quality of life in the city and neighboring communes;

Benefits from the investment "**Starting a leisure infrastructure Nada Florilor"** are: reducing unemployment costs, incurred by the state budget, by creating new jobs.

Specific investment risks refer to the following:

- increasing operating costs by 50 % and maintaining revenues as expected would lead to lengthening the recovery of investment;
- 30% decline in receipts, which could distort the investment, but as shown above, this is unlikely;
- the possibility of a fluctuation in the analyzed factors, but solutions can be found to counter negative results, so the presented projections may be achieved.

CONCLUSIONS

Financial internal rate of return on investment RIRF/C was 0.91 % and the net present value of financial investment (VANF / C) was at a level of - 6965.097 lei.

The negative value is due to negative cash flow of the investment of -12,739,190 lei, which, in the update procedure, influences more than the next 20 years, which have a cumulative positive cash flow;

The considered update rate for discounted cash flows was 9 % and for determining VANF/C, the residual value of the investment objective remaining value after the 20 th year, which is equal to 5.148,875 lei was taken into account. The residual value was determined using updated future net cash flow;

The negative financial net present value and the rather low internal rate of financialreturn of the project (RIRF/C<5%) highlight that the investment must be supported from grants, because the investment did not show high levels of profitability.

The economical and social efficiency impact results from the investment, both in terms of target group and direct beneficiary level:

• increasing population health in the city and neighboring villages;

• increasing the quality of life in the city and neighboring communes;

Benefits from the investment **"Starting a leisure infrastructure Nada Florilor"** are: reducing unemployment costs, incurred by the state budget, by creating new jobs.Specific investment risks refer to the following: *increasing operating costs by 50 % and maintaining revenues as expected would lead to lengthening the recovery of investment;30 % decline in receipts, which could distort the investment, but as shown above, this is unlikely; the possibility of a fluctuation in the analyzed factors, but solutions can be found to counter negative results, so the presented projections may be achieved.*

REFERENCES

Anghel, I., Dinu, E., 2000 – *Strategia şi analiza economico-financiară – studii de caz (The strategy and economic and financial analysis - case studies)*, Editura A.S.E., Bucureşti.

Antonescu, D., 2003 – *Dezvoltarea regională în România (Regional development in Romania)*, Editura Oscar Print, Bucureşti.

Bârsan, Maria, 2000 – *Integrare economică europeană – vol. II (European economic integration - vol. II)*. Editura Fundației CDIMM Maramureş, Baia Mare.

Boardman, A., Greenberg, D., Vining, A., Weimer, D., 2004 – *The cost-benefit analysis (Analiza cost-beneficiu)*, Editura Arc, Chişinău, Republica Moldova.

Bold, I., Buciuman, E., Drăghici, M., 2003 – *Spațiul rural, definire, organizare, dezvoltare (Rural areas, defining, organizing, development)*, Editura Mirton, Timişoara.

Butănescu, R., 1997 – *Investiții – analiză, proces, decizie (Investments - analysis, process decision)*,Editura Universității "Lucian Blaga", Sibiu.

Chiran, A. şi colab., 2004 – *Piața produselor agricole şi agroalimentare – abordare teoretică şi practică (Agricultural and food products market - theoretical and practical approach)*, Editura CERES, Bucureşti.

Chiran, A. şi colab., 2010 – *Diagnostic analysis of the financial stability at S.C. EURONUTRITION S.A. Botoşani, Botoşani district (Analiza diagnostic a stabilității financiare la S.C. EURONUTRITION S.A. Botoşani, județul Botoşani)*, Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, vol. 65(2).

Cistelecan, L., 2002 – *Economia, eficiența şi finanțarea investițiilor (The economy, efficiency and investment financing)*, Editura Economică, Bucureşti.

Despa, R. şi colab., 2005 – *Eficiența investițiilor (Efficiency investments)*, Editura Eficient, Bucureşti.

Dimitriu, M., 1994 – *Studiu de fezabilitate privind eficiența investițiilor elaborat pe calculator (Feasibility study on the efficiency of investment by computer)*, Editura A.S.E., Bucureşti.

Gîndu, Elena, 2012 – *Marketing organizațional, decizii şi strategii (Marketing organizational decisions and strategies)*, Editura PIM, Iaşi.

Işfrănescu, A. şi colab., 2002 – *Analiză economico-financiară (Economic and Financial Analysis)*, Editura A.S.E., Bucureşti.

Man, E.T., Mateoc-Sîrb, Nicoleta, 2007 – *Dezvoltarea rurală şi regională durabilă a satului românesc (Rural development and regional development of the Romanian village)*,Editura Politehnica, Timişoara.

Mironiuc, Marilena, 2006 – *Analiză economico-financiară. Elemente teoretico-metodologice şi aplicații (Economic and Financial Analysis. Theoretical and methodological elements and applications)*, Editura Sedcom Libris, Iaşi.

Peumans, H., 1971 – *Theorie et praqtique des calculs d'investiments (Teoria şi practica calculelor investițiilor)*, Editura Dumond, Paris.

Robu, V., Georgescu, N., 2009 – *Analiză economico-financiară (Economic and Financial Analysis)*, Editura A.S.E., Bucureşti.

Românu, I., Vasilescu, I., 1993 – *Eficiența economică a investițiilor şi a capitalului fix (Economic efficiency of investment and capital stock)*, Editura Didactică şi Pedagogică, Bucureşti.