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PRACE NAUKOWE UNIWERSYTETU EKONOMICZNEGO WE WROCŁAWIU
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Finanse i rachunkowość – teoria i praktyka

Zdeněk Brabec

Technická univerzita v Liberci

THE FINANCIAL EVALUTATION OF THE CAPITAL PROJECT (CONSTRUCTION OF THE MINIBIKE CIRCUIT)

1. Introduction

In this article I would like to describe the financial evaluation of the concrete capital project, which I was engaged in my diploma work. This Project consists in the construction of the minibike circuit that should improve the insufficient training areas for the Juniorminibiketeam of AMK Hořice. This capital project will be estimated according to the criteria, which are usually used to make the economic evaluation of the investments. At the beginning the economic effectiveness of this investment is counted and then the social profitability of the minibike circuit will be taken into the calculations and at the end the effectiveness of this project is worked out in the case of the partial financing from the European Funds.

The investor of this project is the Automotoklub Hořice v AČR (AMK) and its main activity is the organization of the international motorbike road races. The AMK Hořice decided to establish the Juniorminibiketeam that should help the children and teenagers with their start in motorbike races. Within the frame of this team the future motorbike racers should learn the most important knowledges that they will need to become a successful motorbike racer. But there exists a big problem because the AMK don't have any minibike circuit to enable training riding of the Minibiketeam and so it is necessary to go to the minibike circuit in Pardubice (50 km far-away from Hořice). The executive board of AMK consequently decided to build the own minibike circuit.

2. Description of the investment project

The planned minibike circuit should be used mostly for minibikes (small motorbikes) and eventually for karts or for car drivers who wants to improve their abilities. Alternative usage of the minibike circuit is necessary to obtain additional financial funds, which should enable to cover the capital expenditures. At this time the investment project is preparing and the minibike circuit should be finished in the year 2009 so that it could be put into operation in the next year.

The whole sports facility should be composed of the minibike circuit itself that should have asphalt paving in the length of 700 meters and of other buildings such as administration building with the starting tower, boxes, noise barrier, two grandstands and others. The minibike circuit should be build near by the "Autokempink U Věže", which can offer accommodation facility and catering establishment. Among the equipment of the minibike circuit are ranked especially minibikes, karts, racing clothes and other for operation of this sports facility necessary accessory. For the trouble-free operating of the minibike circuit is necessary to find the custodian and to set the operation time, which is planned from April to September, because the sports facility is in the open air.

Because this investment project is very expensive, which couldn't be financed from the own finance funds of the AMK, other especially public funds must be used to cover the capital expenditures that are connected with this capital project. In this case the European Regional Development Fund could be taken into account. This fund contains in the Czech Republic in target convergence in the period 2007-2013 seven Regional operation programs. With regard to the geographical location of the town Hořice it is possible to finance this project from the Regional operation program NUT II northeast, which priority axis 2 that is concerned with the development of the city's and provincial regions, mentions as an example "the construction and renovation of the infrastructure for sports and leisure time activities. For this priority axis in the period 2007-2013 it is prepared 223,2 million Euros [10, s. 171], which is around 6,3 billion Czech crowns (CZK). It is necessary to mention that the financial support from the EU-funds amounts most highly 85% of the capital expenditures and so other financial funds must be ensured.

3. Cash flow planning

To enable to make the financial evaluation of this capital project it is necessary to plan the cash flows of the minibike circuit. For simplification of the following calculations the cash flows from this investment project will be discounted into net present value with the help of the discount factor. Cash flows are planned for 30 years, because most of assets, which will be purchased within this capital project, will be depreciated according to the law of income tax for 30 years. As the discount

factor the interest rate of 1,95% is chosen (in calculation it is rounded up to 2%), which represents the return from „Fond korporátních dluhopisů" of the investment company „ČP Invest" in the year 2006.

3.1. Planned capital expenditures

To find out the cash flows of this capital project the capital expenditures are planned for the first time. These expenditures are composed of capital expenditures for buildings and of the increase of net working capital, which is connected with putting the investment into service, and of the expenditures for purchasing of karts that amount to 280 000 CZK each fifth year. The increase of net working capital in the year 2010 makes 284 500 CZK and the structure of the capital expenditures in year 2009 is described in the next table.

Table 1. Planned capital expenditures in the year 2009 in CZK

Sort of capital expenditure		Size of capital expenditure in CZK
Project documentation		500 000
Construction works	Circuit	3 500 000
	Other buildings	1 500 000
Construction works inclusive of project documentation		5 500 000
Payment for clerical work		150 000
Other expenditures		300 000
Capital expenditures in the year 2009		5 950 000

Source: own.

Within the capital expenditures planning the price of a similar minibike circuit in Brno is taken as an estimation basis and the amount of the expenditures for project documentation is determined as 10% of sum of the expenditures for construction works.

On the basis of the above-mentioned informations the capital expenditures in various years of the planning period could be calculated. By reference of discount factor it is possible to find out discounted capital expenditures, which could be afterwards accumulated. The structure of capital expenditures as well as its discounted value in the first ten years of the planning period is described in the next table.

Table 2. Planned capital expenditures in the first 10 years of the planning period in CZK

Year	Capital expenditures	Increase of net working capital	Total capital expenditures	Discount factor	Discounted capital expenditures	Accumulated discounted capital expenditures
2009	5 950 000		5 950 000	1,0000	5 950 000,00	5 950 000,00
2010	280 000	284 500	564 500	0,9804	553 431,37	6 503 431,37
2011		0	0	0,9612	0,00	6 503 431,37
2012		0	0	0,9423	0,00	6 503 431,37
2013		0	0	0,9238	0,00	6 503 431,37
2014		0	0	0,9057	0,00	6 503 431,37
2015	280 000	0	280 000	0,8880	248 631,99	6 752 063,36
2016		0	0	0,8706	0,00	6 752 063,36
2017		0	0	0,8535	0,00	6 752 063,36
2018		0	0	0,8368	0,00	6 752 063,36

Source: own.

This table represents only a third of the planning period and the total amount of accumulated discounted capital expenditures towards the end of the planning period (in the year 2038) amounts 7 533 281,27 CZK.

3.2. Planned cash inflows

After calculation of capital expenditures the cash inflows those generates this capital project must be figured up. To find out these cash inflows the planned economic result in the various years must be calculated at first. The annual economic result is found as a difference between the planned annual revenues and the planned annual operating costs. The annual revenues in the case of the realistic alternative are described in the table 3.

The annual revenues are counted as a multiplying of the price per hour with the planned visit rate in normal operation period and with planned average number of machines per hour. In the first year of functioning of the minibike circuit the annual revenues are planned only for 50 % of its amount in normal operation period.

Thereafter the annual operating costs must be calculated, which annual amount is 833 833 CZK. It is also necessary to add to these operating costs the value of material, which is not regular used up. Among this material are included such things, which price is lower than 40 000 CZK. In this case these are for example crash helmets, minibikes, gloves etc. The additional increase of the operating costs is contained in the table 4.

Table 3. Planned annual revenues in CZK – realistic version

Service	Price in CZK per hour	Planned visit rate in normal operation period	Planned average number of maschines per hour	Planned revenues	
				in normal operation period	in the first year of the operation period
Leas of the whole circuit inclusive of machines	3000	12	X	36 000	18 000
Entrance fee with own minibike	100	100	7	70 000	35 000
Entrance fee with own cart	150	50	1	7 500	3 750
Leas of the minibike Blata	600	200	5	600 000	300 000
Leas of the cart Honda 200	900	100	3	270 000	135 000
Total revenues	X	X	X	983 500	491 750

Source: own calculation according to the data from [5; 8].

Table 4. Additional operating costs in various years of the investment life cycle in CZK

Cost increase			
Each year	Each 3. year	Each 6. year	Each 15. year
30 000	192 500	317 500	392 500

Source: own.

On the basis of previous dates the economic result could be calculated namely as a difference between the annual revenues and the total operating costs in the various years. On this profit must be put the tax, which makes 24 % of it. The cash inflows of this capital project are found out as a sum of the planned profit after tax and of the depreciations. By reference of the discount factor the cash inflows could be determined in its discounted value. This calculation is represented in the table 5.

If the planned discounted cash inflows are cumulated, they makes at the end of the planning period 5 627 907,60 CZK. This amount should be compared with the total amount of accumulated discounted capital expenditures towards the end of the planning period to get the accumulated discounted net cash flow, which is generated from the minibike circuit. This could be clearly visualized with the help of the table 6.

Table 5. Planned cash inflows in the first 10 years of the planning period in CZK

Year	Planned revenues	Planned operating costs	Planned pre-tax profit	Tax at 24%	Planned profit after tax	Planned deprecia-tion	Planned cash inflows	Discount factor	Planned discounted cash inflows
2009	0	0	0	0,00	0,00	0	0,00	1,0000	0,00
2010	491 750	590 833	–99 083	0,00	–99 083,00	239 333	140 250,00	0,9804	137 500,00
2011	983 500	863 833	119 667	28 720,08	90 946,92	239 333	330 279,92	0,9612	317 454,75
2012	983 500	863 833	119 667	28 720,08	90 946,92	239 333	330 279,92	0,9423	311 230,15
2013	983 500	1 026 333	–42 833	0,00	–42 833,00	239 333	196 500,00	0,9238	181 535,63
2014	983 500	863 833	119 667	28 720,08	90 946,92	239 333	330 279,92	0,9057	299 144,70
2015	983 500	863 833	119 667	28 720,08	90 946,92	239 333	330 279,92	0,8880	293 279,12
2016	983 500	1 151 333	–167 833	0,00	–167 833,00	239 333	71 500,00	0,8706	62 245,05
2017	983 500	863 833	119 667	28 720,08	90 946,92	239 333	330 279,92	0,8535	281 890,73
2018	983 500	863 833	119 667	28 720,08	90 946,92	239 333	330 279,92	0,8368	276 363,46

Source: own.

Table 6. Planned cash flows of the minibike circuit in CZK

Year	Accumulated discounted capital expenditures	Accumulated discounted cash inflows	Accumulated discounted net cash flow
2038	7 533 281,27	5 627 907,60	-1 905 373,67

Source: own.

On the basis of the data that are included in this table an important conclusion could be made. The accumulated discounted capital expenditures are higher than the accumulated discounted cash inflows, so the accumulated discounted net cash flow is negative.

4. Financial evaluation of the capital project

The financial evaluation of the capital project is executed according to the financial measures, which are calculated by reference of informations from the previous part of this text. To make the financial evaluation of this capital project three following methods [1, s. 58-100] are used and namely net present value, discounted payback period and internal rate of return.

Within the frame of the net present value the net cash flows of the investment project, which is discounted to the beginning of the planning period, are cumulated. To calculate this financial measure the data from the table No. 6 are used and the

net present value of the minibike circuit is equal to the accumulated discounted net cash flow, which in the year 2038 makes -1 905 373,67 CZK. On the basis of the result of this financial measure it could be claimed that under the above-mentioned conditions this investment project is not feasible.

The discounted payback period represents such part of the planning period, during it the discounted capital expenditures can be covered from the discounted cash inflows. In the previous paragraph it was claimed that the accumulated discounted capital expenditures in the year 2038 are higher than the accumulated discounted cash inflows in the same year. And so it is not possible to cover the accumulated discounted capital expenditures from the accumulated discounted cash inflows.

The internal rate of return consists in finding of such interest rate by it the net present value equals zero, which means that the accumulated discounted capital expenditures in the given year are same as the accumulated discounted cash inflows in this year. The internal rate of return in the case of this capital project amounts 1,81% and so according to this financial measure this project is not feasible because the calculated internal rate of return is lower than the given discount factor.

5. Alternative versions of the capital project

To get better results of the above-mentioned financial measures it is possible to include the social profitability of the minibike circuit to the cash flow calculations or to make these calculations in the case of the partial financing of this capital project from EU-funds.

5.1. Social profitability of the minibike circuit

In the case of the investment project that is not realizable according to the measures of economic efficiency and what performs other functions too the social profitability of such investment could be taken into account. With the minibike circuit are connected various sorts of social profitability that are described in the following table.

Table 7. Planned social profitability of the minibike circuit per year

Sort of social profitability	Size in CZK
Saving expenses for leasing of the minibike circuit in Pardubice	145 240
Increases of revenues of the "Autokempink U Věže" inclusive of restaurant	88 800
Increases of revenues of other enterprisers	100 000
Employment benefit	210 000
Total social profitability	544 040

Source: own.

If the social profitability of the minibike circuit is included into the cash inflows absolutely different results of the above-mentioned financial measures are received. The discounted payback period amounts in this case only 10 years and the net cash flow in the year 2038 makes 9 712 159,09 CZK and so according to these data it is possible to realise this capital project.

5.2. Economic effectiveness of the investment in the case of the partial financing from the European Funds

The other possibility to get better results of the financial measures of this capital project consists in other method of financing of this project. Instead of financing from own funds it is expected that this project will be financed from the public funds especially from the EU-funds. In this case 85% of the capital expenditures should be covers from the EU and the rest from the "Autoklub České republiky" The capital expenditures makes only 900 000 CZK and it is also expected that the depreciation amounts 15 000 CZK per year and interest rate, which will be used for calculation of the discount factor, is chosen at 10%, which is corresponding with the interest rate that is usually paid in the case of long-term credits.

Under these conditions could be decided to realise this capital project, because the measures of the economic efficiency shows positive results. The discounted payback period makes 14 years and the net present value of the minibike circuit in the year 2038 amounts 322 425,88 CZK. The internal rate of return is calculated as 14,4% that is higher than the interest rate, which was used for calculation of the discount factor.

6. Conclusion

Finally should be once again resumed the findings that were received in the financial analysis of minibike circuit. At first the capital expenditures of this capital project must be mentioned because only the expenditures for construction works 6 million CZK exceeds. This capital project should be financed from public funds especially with the help of the European Regional Development Fund, which is typical in such cases. If the minibike circuit won't be financed from public funds, it is not possible according to the measures of economic efficiency to realise this project, because these measures have negative results.

If the social profitability of the minibike circuit will be also included into the calculations of cash inflows other results of the above-mentioned measures could be expected. The social profitability that is connected with this capital project is high enough that the accumulated discounted cash inflows (inclusive of social profitability) exceed the accumulated discounted capital expenditures. In this regard could the minibike circuit built. A similar result could be also received when the project will be financed with the help of the European Regional Development Fund,

because capital expenditures in this case are substantially lower and so the amount of the planned cash inflows is high enough to exceed these capital expenditures.

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FINANSOWA OCENA PROJEKTU KAPITAŁOWEGO (KONSTRUKCJA TORU DO MINIMOTOCYKLI)

Streszczenie

Celem tego artykułu jest opisanie finansowej oceny konkretnego projektu kapitałowego, w który autor został zaangażowany przy pisaniu swojej pracy dyplomowej. Ten projekt kapitałowy polega na konstrukcji toru do minimotocykli, który będzie realizowany przez stowarzyszenie obywateli nazywane Automotoklub Hořice, by umożliwić trenowanie dzieciom, które przygotowują się do bycia kierowcami motocyklowymi w przyszłości. Automotoklub Hořice jako organizacja *non-profit* nie jest zdolny do finansowania tego projektu ze swoich własnych funduszy, a więc jest konieczne zapewnienie finansowania tego projektu z publicznych funduszy, szczególnie z funduszy Unii Europejskiej. Planowane przepływy pieniężne tego projektu kapitałowego będą wykonane i te dane posłużą do jego finansowej oceny. Następnie zostaną opisane dwa możliwe warianty tego projektu, które mogłyby ulepszyć efekt wskaźników ekonomicznej wydajności tego projektu kapitałowego.