

RESIDENTIAL COMPLEX ZBUZANY – EVALUATION OF INVESTMENT EFFICIENCY

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Abstract

The subject of research is the evaluation of investment efficiency and focuses on a particular investment development project in Zbuzany. Competing firms in the area are analyzed and conclusions drawn on recommended methods of project financing, calculating the selling prices of flats and the projected sales. Economic indicators for assessing the profitability of investments are the net present value at the selected discount rate and internal rate of return.

Keywords

cash flow; development project; net present value; project financing; shareholder's capital

Introduction

The aim of research is to evaluate the effectiveness of the Zbuzany investment residential complex in the district of Prague-West, which will be made up of ten buildings, classified into three basic types and providing in total 256 housing units.

Modern apartment buildings will cater for new and original inhabitants of the village and it should become a popular place to live due to the quietness of the area and the enviable easy access to the capital by both car and public transport.

This research will evaluate the Zbuzany complex and compare it with competing projects and the current situation in the real estate market in the neighbourhood and its surrounding area. It will assess the pricing of the individual housing units and look at projected sales based on data obtained from firms with similar projects in the area.

The Initial Proposition

A proposition is first made for suitable financing of a project along with schemes to help buyers later purchase units. A detailed analysis is provided that covers all the development plans with further proposals until a project is finally created along with an estimate of financing cash flow. Each project is required to return at least 30% on the sale of flats and a development company is willing to pay up to 450 million CZK, without VAT, to see the project through. All units must be sold within 3 years from the commencement of the various stages of construction.

In conclusion, a project is assessed using indicators of investment efficiency, which is then evaluated and discussed.

Case study information

Basic information

The Zbuzany project is quite an interesting one to study. It is located close to the capital city of Prague so it has the potential to easily attract buyers who would find it well within commuting distance, and due to the fact that the project has the capacity to house a greater number of people than the current population of Zbuzany, it has the potential to be a driving factor in changing the landscape of the town.

The proposed residential complex envisages the construction of a modern suburban center with a clear axial orientation. It wants to attract people who wish to live in a residential zone with greenery, and create a restful environment for residents and the village community as a whole.

Structural development is taking place alongside the road that passes through the middle of the area and it could easily be said that the first and last couple of buildings create a psychological gateway to the project.



Figure 1: Project visualization [4]

The building plot is located in the south west of the village, the site of a former orchard. To the north and east sides of this area the houses and stadium stand adjacent to each other.

The construction proposal of residential houses conforms to the territorial development plans of the municipality, as well as the requirements of the authorities concerned.

The houses are situated as follows:

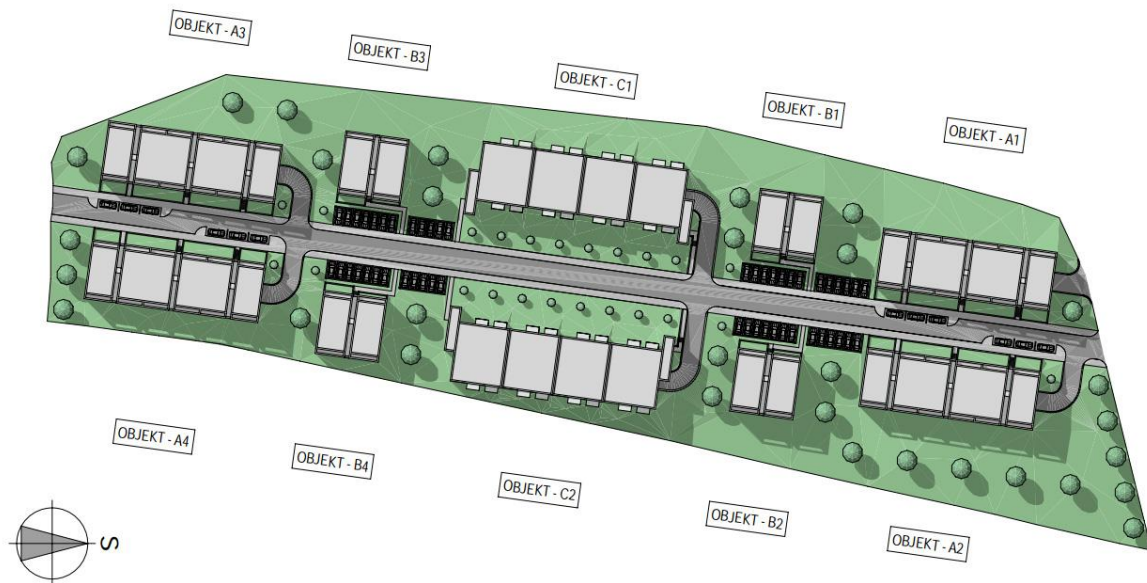


Figure 2: Project visualization – situation [4]

An Analysis of the project vicinity

In analysing the project vicinity I discovered some key facts from the Czech Statistical Office.

The population of the district of Prague-west

The population of the district of Prague-West is 128,426 according to the latest data filed on the 4 March 2013, and follows a rising trend. [3]

The number of completed dwellings in residential buildings in the district of Prague-west

Due to the slowly improving economic situation the number of completed constructions of living accommodation has started to rise and not only include flats in semi-detached houses and apartment buildings, but also in other new buildings. This information has been confirmed by data from competing building firms in the area and pertains to projects that are a comparable distance from the city center and with a similar availability as in Zbuzany. [3]

Average price of apartments in Prague-West

CSO have published data stating average apartment prices in Prague-West but as this data is for the entire Central Region it is somewhat misleading for this project as average prices in the Central region are much lower than in Prague-West. Prices are really comparable properties situated on the outskirts of Prague and nearby towns such as Reporyje and Dobřichovice. Prices in the sales scenario will therefore be derived from an analysis of price competition. [3]

An analysis of competing projects in the area

The table below includes an analysis of projects completed by competitors that are similar to the Zbuzany complex.

Table 1: An analysis of competing projects in the area

An analysis of competing projects in the area						
Name	Locality		Source	Developer	Completion	% of sold flats
Byty Zbuzany	Zbuzany		www.byty-zbuzany.cz	STAVING Olomouc s.r.o.	1.1.2015	k 7.10.2014 84
Lada Černošice	Černošice		www.bytyvcernosicich.cz	Byty a domy realitní as.	30.11.2014	k 7.10.2014 40
TRIO RESIDENCE	Praha 5	Zličín	www.trioresidence.cz	Trio Zličín s.r.o.	30.8.2015	k 7.10.2014 52
DOB centrum	Dobřichovice		www.dobcentrum.cz	DOB - invest a.s.	30.8.2015	k 7.10.2014 55
Šafránka Řeporyje	Praha 5	Řeporyje	www.vivus.cz	Vivus Luka s.r.o.	30.8.2016	k 7.10.2014 15

Most of these projects are relatively new, which is a factor for the low percentage of apartments sold to date but what is positive for the Zbuzany complex is that a project closely resembling it as a whole has largely sold out two months before completion. This project is also situated in Zbuzany, which shows the popularity and potential of this community.

Average selling prices of competing flats

The prices of residential units vary greatly according to the floor on which they are located, thus the analysis of competitive pricing is related to this fact.

The prices of competing flats on each floor were determined from average prices in competing projects and the average cost of apartments on the same floor were priced per square metre. It was found that prices based on square metres in the housing areas have not changed significantly.

Calculation of project investment costs

The total construction costs can be broken down into:

- Title I: Design and survey work
- Title II: Total of operational files
- Title III: Building objects
- Title IV: Machinery, equipment, tools and inventory investment nature
- Title V: Artwork
- Title VI: Costs associated with the placement of buildings
- Title VII: Other costs not included elsewhere
- Title VIII: The Reserve
- Title IX: Other investments
- Title X: Costs paid from operating funds [5]

Calculations under these headings can be found in the following table:

Tale 2: Calculation of project investment costs

Calculation of project investment costs			
	without VAT	VAT	with VAT
I	10 288 627 Kč	2 160 612 Kč	12 449 239 Kč
II	0 Kč	0 Kč	0 Kč
III	342 954 240 Kč	51 443 136 Kč	394 397 376 Kč
IV	0 Kč	0 Kč	0 Kč
V	0 Kč	0 Kč	0 Kč
VI	5 487 268 Kč	823 090 Kč	6 310 358 Kč
VII	5 830 222 Kč	874 533 Kč	6 704 755 Kč
VIII	10 288 627 Kč	1 543 294 Kč	11 831 921 Kč
IX	61 882 500 Kč	9 282 375 Kč	71 164 875 Kč
X	1 000 000 Kč	150 000 Kč	1 150 000 Kč
CELKEM	437 731 484 Kč		504 008 525 Kč

The project schedule

The project schedule is as follows:

- The end of the pre-investment phase / land purchase: April 2013
- Preparation of documentation for zoning and planning permission: May June 2013
- Documentation for building permits: June to December 2013
- Preparation of documentation for construction: January to July 2014
- Start of construction: March 2015
- Deadline for completion of the first stage: April 2017
- Start of the second stage of construction: March 2016
- Deadline for the completion of the second stage: April 2018
- Start of the third stage of construction: March 2017
- Deadline for the completion of the third stage: April 2019
- Completion date: April 2019

Project phases

- I. Phase = A1, A2, B1, B2

- II. Phase = C1, C2
- III. Phase = A3, A4, B3, B4

Evaluation of the efficiency of the investment project

The data obtained has provided an overview of individual housing unit prices and their projected sales. The Zbuzany project is implemented in three stages and in this period of time housing units are offered for sale with an option for a buyer to purchase without any form of loan or with their own money and a mortgage loan.

Using this information the cash flow of the project is predicted:

The data is then evaluated using indicators of investment efficiency.

The net present value [1]

$$NPV(i, N) = \sum_{t=0}^N \frac{R_t}{(1+i)^t} \quad (1)$$

t is the time of the cash flow

i is the discount rate

R_t is the net cash flow i.e. cash inflow – cash outflow

N is the total number of period

Profitability Index [2]

$$PI = \frac{\text{Present value of future cash flows}}{\text{Initial investment}} \quad (2)$$

Internal rate of return [1]

$$NPV = \sum_{n=0}^N \frac{C_n}{(1+r)^n} = 0 \quad (3)$$

N is the total number of period

C_n is cash flow in period

R is the internal rate of return

It is then decided whether the project is worth implementing, or even looking into its feasibility that might include buyers getting into financial difficulties and forced into arranging loans.

Conclusion

To evaluate the effectiveness of the investment plan residential complex Zbuzany is a study of usability along with financial and economic evaluation. To complete this study an estimate of the strategy used to sell units in order to finance the project was conducted according to data from the current market. The outcome of the feasibility of the study of the investment project for the construction of a building with residential units for sale, included the determination of investment costs, expected revenues and an overall evaluation of effectiveness.

Two possible purchasing options are identified - an equity investor and a partial capital investor in combination with a mortgage loan. Realistically, it is assumed that the investor will finance the entire project from their own resources, mainly because it is a large international company.

The target buyers are from all age groups, with middle to high incomes interested in purchasing various apartment styles. The wider scope of the study is based mainly on the activities of competing developers in the project site and surrounding area.

On the basis of the analysis of competing projects a possible scenario of unit sales was chosen and based on that predicted incomes from projected sales. It is expected to ensure sales through a real estate agency that has exclusive rights. For buyers there is a payment schedule whereby it is expected that the full price will be paid by the time the units are finished.

The study also determines cash flow to evaluate the efficiency of the investment, the main indicators are the NPV, IRR, DPP. I hope that the net present value (NPV) will be at a level to allow such investments to be recommended. The break even point should occur as soon as possible.

At the beginning of the investment the following criteria was chosen:

- The project required a return of at least 30% on the sale of flats
- The development company is willing to pay up to 450 million CZK without VAT for the completing the project
- All units must be sold within 3 years from the commencement of the various stages of construction.

It is important that all these criteria have been met and that the project is capable of implementation without facing big financial difficulties.

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