FEASIBILITY OF CONSTRUCTIONS IN ALBANIA: CASE OF TIRANA

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ABSTRACT

After the 1990s, Albania has moved from a centralized economy to a free market economy. This brought about major changes. In construction, one of the main points that emerged was the withdrawal of the state as the main actor to meet the needs of the population with residential apartments. This need began to be met by private investors. The state played the role of construction, architectural, urban, and legislative quality control. Thus, another interaction between private investors in the construction market began to emerge: between the owner or owners of a plot and the construction firm. Both are private actors in the market. In this interaction framework, the economic benefit of both parties is the main factor influencing and determining whether an area or property will develop or not. Looking from this point of view and given that the development of the research topic is based on the densification, that is to say, the construction, and since the relations is between the two private individuals, the following question would be of interest: *What is the "I"[i] sqm/sqm (FAR[ii]) value that an area can constitute economic interest to the builder?*

INTRODUCTION

In the simplest possible conception, investing in a new construction can be considered and assessed as a project that has its management phases. According to *SangHyun Lee*, a very clear explanation for the stages of a project would be as follows:

Figure 1: Stages of implementation of a project
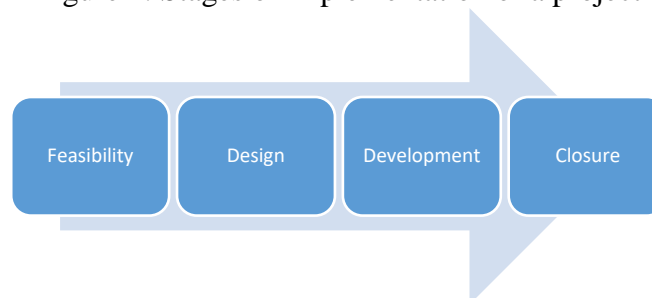
Source: Adapted by *SangHyun Lee, 2014*

It is exactly in this part that we will stop at the first stage, the feasibility of the investment. It is at this stage that the financial analysis and the risk associated with the projected investment are carried out. In the multitude of indicators and financial analyzes that may be used in this study, we will stop analyzing the data collected, two indicators, and specifically the Net Present Value -NPV and the Internal Rate of Return-IRR.

Net present value (NPV) is the difference between the present value of the cash inflows and the present value of the cash outflows. NPV is used in capital budgeting to analyze the break-

even of an investment or projected design. Net present value indicates that projected earnings generated by a project or investment (in present value) exceed the estimated costs (also in present value). Generally, an investment with a positive NPV will be profitable and one with a negative NPV will result in a net loss. This concept is the basis for the Net Present Value Rule, which dictates that the only investments to be made are those with positive NPV values.

The way NPV can be calculated is as follows:

$$NPV = \sum_{t=1}^{T} \frac{C_t}{(1+r)^t} - C_0$$

Where:
C_t = net cash inflow during the period t
C_0 = total initial investment costs
r = discount rate
t = number of time periods

The Internal Rate of Return (IRR) is another indicator commonly used as an NPV alternative. Internal rate of return (IRR) is a metric used in capital budgeting measuring the profitability of potential investments. Internal rate of return is a discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero. The Internal Rate of Return (IRR) represents the interest rate at which the net present value (NPV) of the expected cash flows of a project, both positive and negative, multiplies to zero. A project IRR is used as a landmark; if the IRR of a particular project is higher than the company's required return rate, the firm accepts the project. If, however, the IRR of a project is calculated to be below the required level of the company for return, the company does not move forward with the project

In general, the higher the internal rate of return of a project, the more desirable it is to undertake this project. IRR is uniform for investments of different types and as such, IRR can be used to rank some future projects of a firm reviewing on a relatively equal basis. Assuming that investment costs are equal between different projects, the highest IRR project would probably be considered as the best and will be undertaken first.

We have taken the bank interest rates, which are compared with the IRR that would result from the alleged investment as a comparative basis for our study. Following the theoretical basis and the way IRR justifies, we can conclude that as long as the IRR is greater than the banking interest rate then the investment must be carried out.

METHODOLOGY

The study of this topic would be of interest also because it is the builder who ultimately enables the construction. The best way to answer the above question is to conduct a feasibility study. This study will be applied to several urban realities of Tirana and several factors will be considered:
   a) General construction costs (it should be understood that not only the construction cost but also the municipal and state taxes, the fees of various specialists, such as architects, engineers, etc.)
   b) The location of the building area in relation to the city center.
To carry out this study we will get some analytical elements that will be taken from an economic research (excel formula). Regarding the calculation of the construction cost, we

will be based on some of the data we have from: "Instruction no. 4, dated 30/9/2015, On Approval of the Average Cost of Housing Constructions by the National Housing Entity for 2015". In addition, to calculate taxes, we will be based on the reference prices for the areas in the city of Tirana.

The following areas: 2/1, 9/1, 7/4 and 3/2 were taken as study areas. These areas are representative of a construction reality in Tirana. For all of these four areas, the following method has been applied. Hypothetically, a plot of 1000 sqm has been taken, without specifying plot ratio, because it is unnecessary for calculation purposes. From the tables, the reference prices map and instructions are taken the basic data to calculate the economic cost. Also, researches have been made to these areas to understand in % the ratio of how much would be the share claimed by the owners and also a dynamic sales prices and the determination of a reference selling price for each area has been made.

Figure 1: Map of Tirana areas
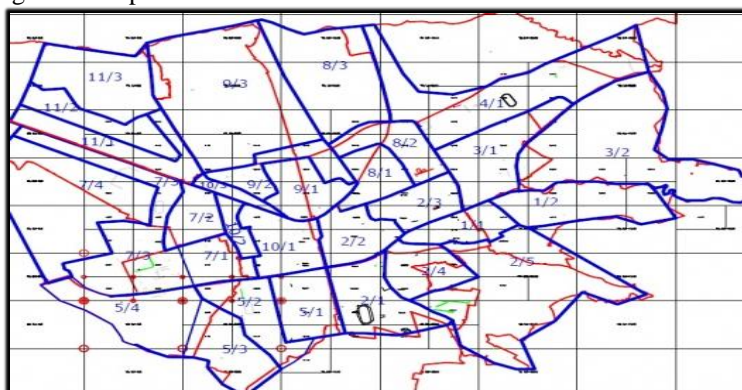
Source: ekb.gov.al

RESULTS OF STUDY
a. Area 2.1

Starting from the first area included in the study, Area 2.1, and continuing with other areas, first we calculated the cost of construction trying to define the profit for each area. For each study area, we will analyse two economic indicators namely, IRR (internal rate of return) and NPV (net present value). The reason why these indicators are chosen is because they provide economically enough information if the investment planned for realization is profitable or not.

Table 1: Area 2.1, calculation of cost

"I"	Property surface area sqm	Construction surface area on plot sqm	Total surf. area sqm	Reference price	Sale price market	% of the owners	% of the investor
1	1000	1000	1400	187000	224400	0.45	0.55
Construction cost 1		63000000	ALL				
Tax 1%		630000	ALL				
Tax 8%		20944000	ALL		Total sale	Sale with no owner	
Total cost		84574000	ALL		314160000	172788000	ALL
						88214000	profit in ALL
						668288	profit in EUR

Source: Author's calculation

Calculating the construction costs it turns out that the total cost for area 2.1 is ALL 845,740,000. Based on the data obtained for this area, we calculated below the ALL movements as well as the present value of investment in ten years. These calculations were made aiming to extract the above two economic indicators, IRR and NPV:

Table 2: Area 2.1, IRR and NPV calculation

Year	Cash flow	Present value
0	-50744400.00	-50744400
1	-33829600	-32218667
2	86394000	78361905
3	86394000	74630385
4		0
5		0
6		0
7		0
8		0
9		0
10		0
		70029224
	NPV	**70029224**
	IRR	**41%**

Source: Author's calculation

To understand if this investment is feasible, then the IRR should be higher than the Bank of Albania maturity interest rate. As seen IRR = 41%, whereas bank's = 5%. So, IRR is almost eight times higher than the maturity bank interest or in other words, this investment shows high feasibility. This table gives these values for "I" = 1 sqm/sqm. Another fact is of special interest. The profit ratio does not change for "I" with other values, so it is a profit rate that is not related to the economic level simply with "I" and the intensity of the construction is not a factor of change in value added. If we change other elements such as the percentage of owners' benefit, we note that the figures change and in this case, we say they are reduced. So, the builder's profit rate decreases.

As we see, the profit rate is influenced not only by the "I" but also by other factors such as the reference price, the percentage of the owners, the selling price on the market. It is different when we discuss the total monetary income. In the abovementioned case, as seen from the table we have a total profit in Euro of EUR 668,288. So, "I" directly affects the total amount of profit. If we look at the following table, it will be clearer the linear profit ratio with the construction intensity.
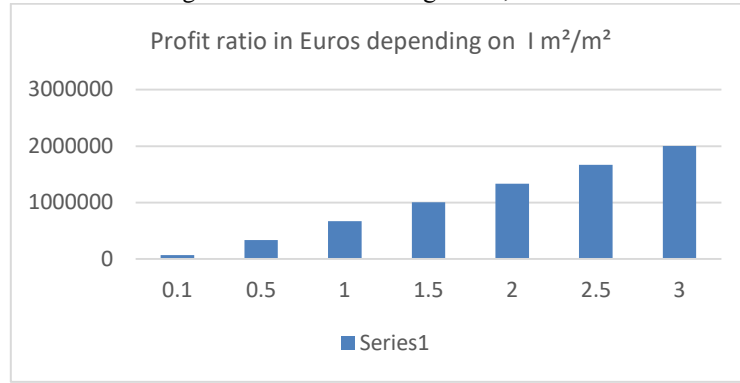
Table 3: Profit according to "I", area 2.1

"I" sqm/sqm	0.1	0.5	1	1.5	2	2.5	3
Profit in Euro	66829	334144	668288	1002432	1336576	1670720	2004864

Source: Author's elaboration

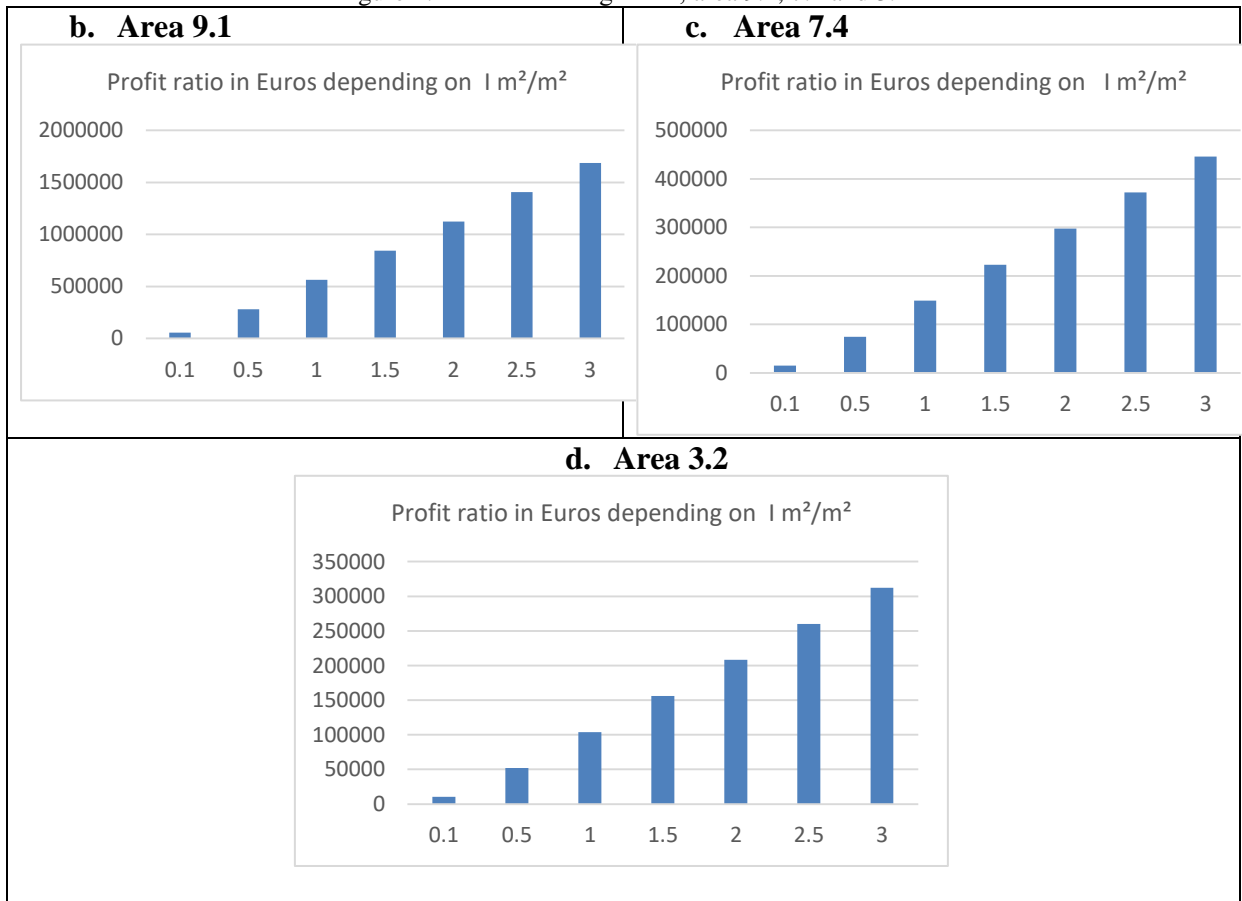Or, in the chart, we see more clearly the "I" ratio with the economic profit.

Figure 2: Profit according to "I", area 2.1

Source: Author's elaboration

The same analyses and assessments are made in the other areas, which are summarize as follows

Figure 2: Profit according to "I", area 9.1, 7.4 and 3.2

b. Area 9.1

c. Area 7.4

d. Area 3.2

Source: Author's calculation

CONCLUSIONS

The above analysis takes into account a hypothetical positive situation, where everything goes according to projections extended to four years of investment and in case all surface areas are sold. We also have a price unification setting the same price for apartments as for commercial surface areas. From their preliminary analysis, if we take as a limit a profit of EUR 200,000, then we can say that in the central areas this is also achieved for lower "I" as 1

sqm/sqm, whereas for the more peripheral areas of Tirana, the intensity should definitely grow and be at least 2 sqm/sqm.

It should also be said that there are other factors directly affecting the interest increase for builders. These factors are:

a. Reference price
b. Selling price
c. The property size of the surface area to be developed
d. Percentage taken by owners
e. Geographical position in relation to the centre or city centres of Tirana

Point c- (*property size*) leads to a deductive conclusion which means that the larger the managed property the higher the profit, and as a result the interest of the builders. This is true in the peripheral areas. While in the areas close to the centre, this stands, but as the profit percentage is high, then the builders reach a situation of interest even for small property. In conclusion, the intensity of construction affects and is in a straight line with profit but is not the only factor that influences to make a building plot feasible for the builder.

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[i] I is the construction intensity

[ii] FAR is the Floor Area Ratio