

Development Appraisal (residual value)

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- Calculate Gross Development Value
- Deducting from this the costs of development

Gross development Value

- Calculate annual net income and capitalise it

The costs of development

- (1) Demolition and site clearance
- (2) Construction costs
- (3) Contingencies 10-15% of (1) and (2)
- (4) Professional fees 10% of (1) and (2) and (3)
- (5) Finance costs 3% of GDV
- (6) Developers' profit 10% to 20%

Example, input data

- 1000m² retail accommodation
- shop rentals 28800 Ft/m² annum (8 euro monthly) 1 floor
- office rentals 28800 Ft/m² annum (8 euro monthly) 2 floors
- MARR is 8%

Construction cost,

- Net useable floor area is gross area reduced by 10%
- Shops 900m²
- Offices 1000m²-15% 850m² net x2 floor= 1700 m²
- Building cost
- Shops – 180 000 Ft per m² gross
- Offices – 180 000 Ft per m² gross
- Developers profit is 10%
- Financing is 6% per annum

Valuation

- Shop 900m2 net x 28800 Ft = 25 920 000
- Offices 1700m2 net x 28800Ft = 48 960 000
- 74 880 000
- MARR is 8%
- GDV is 936 000 000

Less costs

- Construction cost
- 3000m2 x 180 000 Ft /m2 = 540 000 000
- Contingencies 10% of 540 000 000 that is 54 000 000
- Professional fees 10% of 540+54=594 million that is 59,4 million
- Financing ½ cost of the 594+59,4=653,4 million at 6% for 2 years
- $653,4/2*(0,06+0,06)= 39 204 000$
- Surveyors and legal fees 3% of GDV = 28 080 000
- Developers' profit 10% of GDV = 93 600 000

- Total cost 814 284 000
- Residue is 121 680 000

- This residue covers the Land Value, Acquisition Cost (surveyors and legal fees 4%) financing for 2 years at 6%

Land Value

- Land value is x
- Acquisition costs $= 0,04x$
- Financing on land value and acquisition costs
- $1,04x (0,06 + 0,06) = 0,1248x$
- Total is $1,04x + 0,1248x = 1,1648x$
- $1,1648x = 121\ 680\ 000$
- $X = 104\ 495\ 192$
- This technique gives a maximum bid for a developer to buy freehold on the basis of earning profit of 104 495 192 Ft.

Homework

- Find a real estate project
- Supply / demand analysis
- Make a list of all positive and negative impacts of the project
- Transform the impacts to money
- Construct a cash flow
- Calculate ENPV, ERR

Examples of social external benefits

- advantages in terms of reduction of risk of accidents in a congested area;
- savings in transport time in an interconnected network;
- increase of life expectancy from better health facilities or from reduction of pollutants.

Examples of social external costs

- loss of agricultural product because of different use of land;
- additional net costs for local authorities to connect a new plant to existing transport infrastructure;
- increase in sewage costs.

Financial analysis

- The purpose of the financial analysis is to use the project's cash flow forecasts (financial inflows and outflows from the aspect of the owner of the project) in order to calculate suitable return rates, specifically the financial internal rate of return (FRR) and the corresponding financial net present value (FNPV).

Economic analysis (in homework)

- The economic analysis appraises the project contribution to the economic welfare of the region or country. It is made on behalf of the whole society (region or country) instead of just the owner of the infrastructure like in the financial analysis

Museums and archeological park/ financial analysis

- Financial inflows: admission fees (which cover only a fraction of the real costs),
- sales of collateral services and related commercial activities.

- Financial costs: personnel and maintenance (which may be predominant in the medium-long term).
- Time horizon: 15-20 years.

Museums and archeological park/ Economic analysis

- Externalities
- loss of land and other raw materials, possible mobility or construction congestion brought about by the installation of the infrastructure and so on.
- Increases in incomes in the tourism sector (increased flow and longer average length of stay) induced
- additional increase in income due to other possible induced activities (commercial activities, restaurants, recreational activities, etc.)

Hospitals/ Financial analysis

- Financial inflows: fees for hospital admission (e.g. the number of days the patient spends in hospital), diagnosis and treatment which are paid separately and additional services (single rooms, etc.).
- Financial costs: personnel, medicines and materials, out-sourced medical services necessary to run the structure.
- Time horizon: at least 20 years.

Hospital/Economic analysis 1.

- the key benefits are:
- the future saving in health costs, directly proportional to the decrease in the number of people affected and/or the lesser degree of gravity of the illness due to the implementation of the project (reduced outpatient and home assistance costs for those who avoided catching the illness, lower hospital and convalescence costs for those who have been treated more effectively);
- the avoided loss in production, due to the lower number of working days lost by the patient and his family

Hospital / Economic analysis 2.

- the increase in the welfare or the reduction in suffering on the part of the patients and their family, identifiable as the number of deaths avoided, the increased life expectancy of the patient and the improved quality of life for the patient and his family as a result of the illness avoided or the more effective treatment administered.
- Benefits may be given a money value recurring to the market prices of the service
- willingness to pay or using standard methods, as the indices for increased life expectancy,
- suitably adjusted by the quality (e.g. Quality Adjusted Life Years) which can be valorised according to the principle of lost income or to similar actuarial criteria.

Training infrastructures (Schools) / financial analysis

- Financial inflows: school fees, annual subscriptions, and prices of possible paid auxiliary services.
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- Financial cost: the cost of the personnel necessary to run the structure (in the long term)
- Time horizon: 15-20 years

Training infrastructures (Schools) / financial analysis

- the number (or percentage) of pupils who have found (or who are expected to find) productive employment and who, without this specific training, would have been unemployed or under-employed.
- If the prominent objective is to improve the opportunities for potential pupils on the labour market, the benefits may be quantified and underemployment, better positioning on the market)
- Externalities
- loss of land, and other raw materials, possible mobility or construction congestion brought about by the installation of the infrastructure. If it can be predicted, the increase in incomes due to other possible induced activities, (commercial activities, restaurants, recreational activities, etc.).
