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Financial considerations regarding Green Buildings

Green Finance – Green Buildings



NEW GREEN DEAL

Definition





ROMANIA
GREEN
BUILDING
COUNCIL

NAIRomania
Commercial Real Estate Services, Worldwide.

Why should we invest in Green Buildings?

Corporate governance – how to gain the trust of stakeholders and how to differentiate yourself in the relationship with them

Why is that important?

Green Buildings and positioning

Clients

- Caring consumers
- Other segments?

Investors

- Creditors
- Shareholders
- Market perception

Third parties

Employees
Clients of the
tenants

Community



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Why is valuation important?

Preferences in the current Romanian real estate market

Higher quality requirements

High price pressure

Large cost fluctuations

Unstable and unpredictable market

Special consumer segments

Perception of a high level of risk

Is it worth investing in a green building?

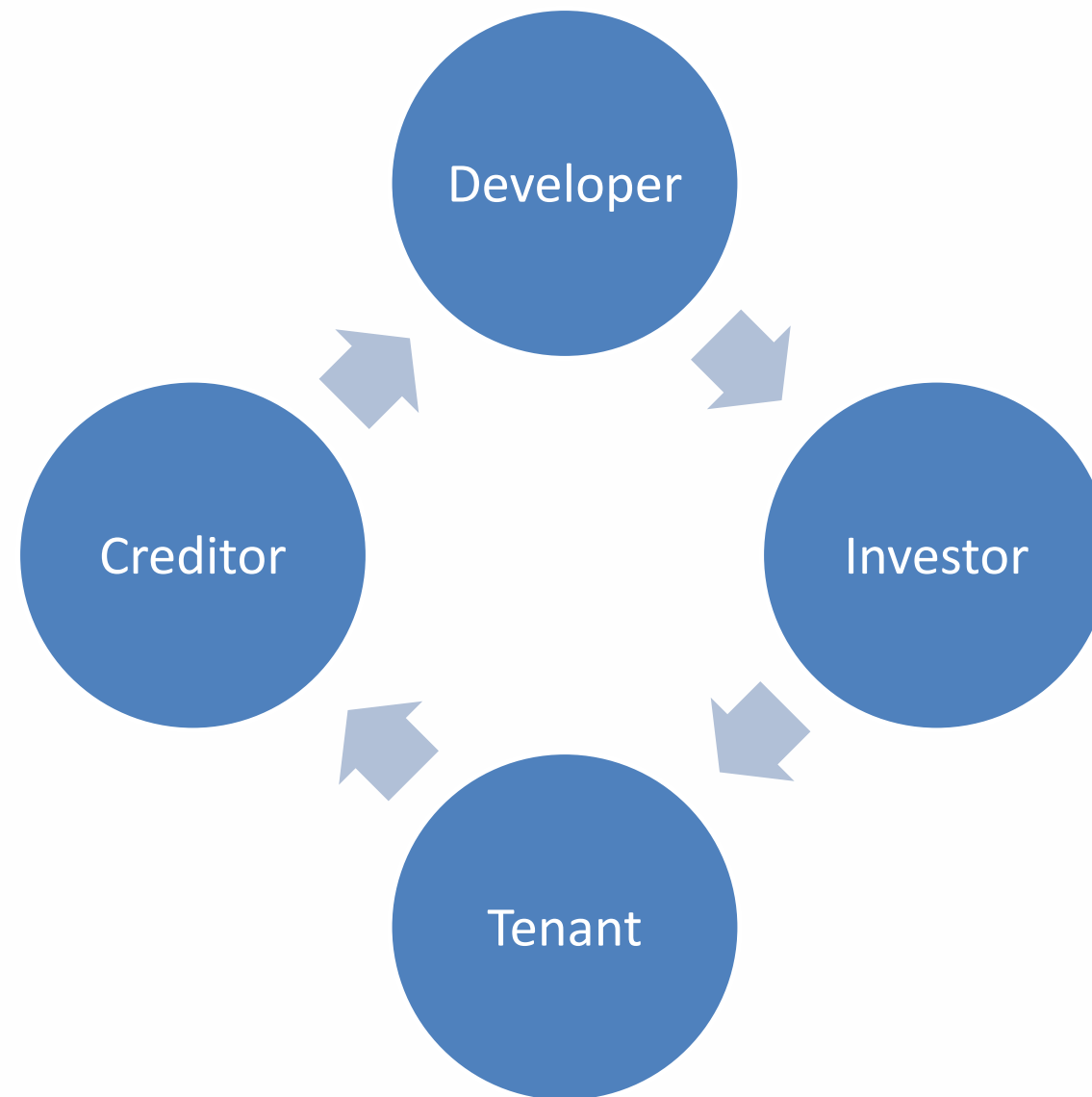
Costs

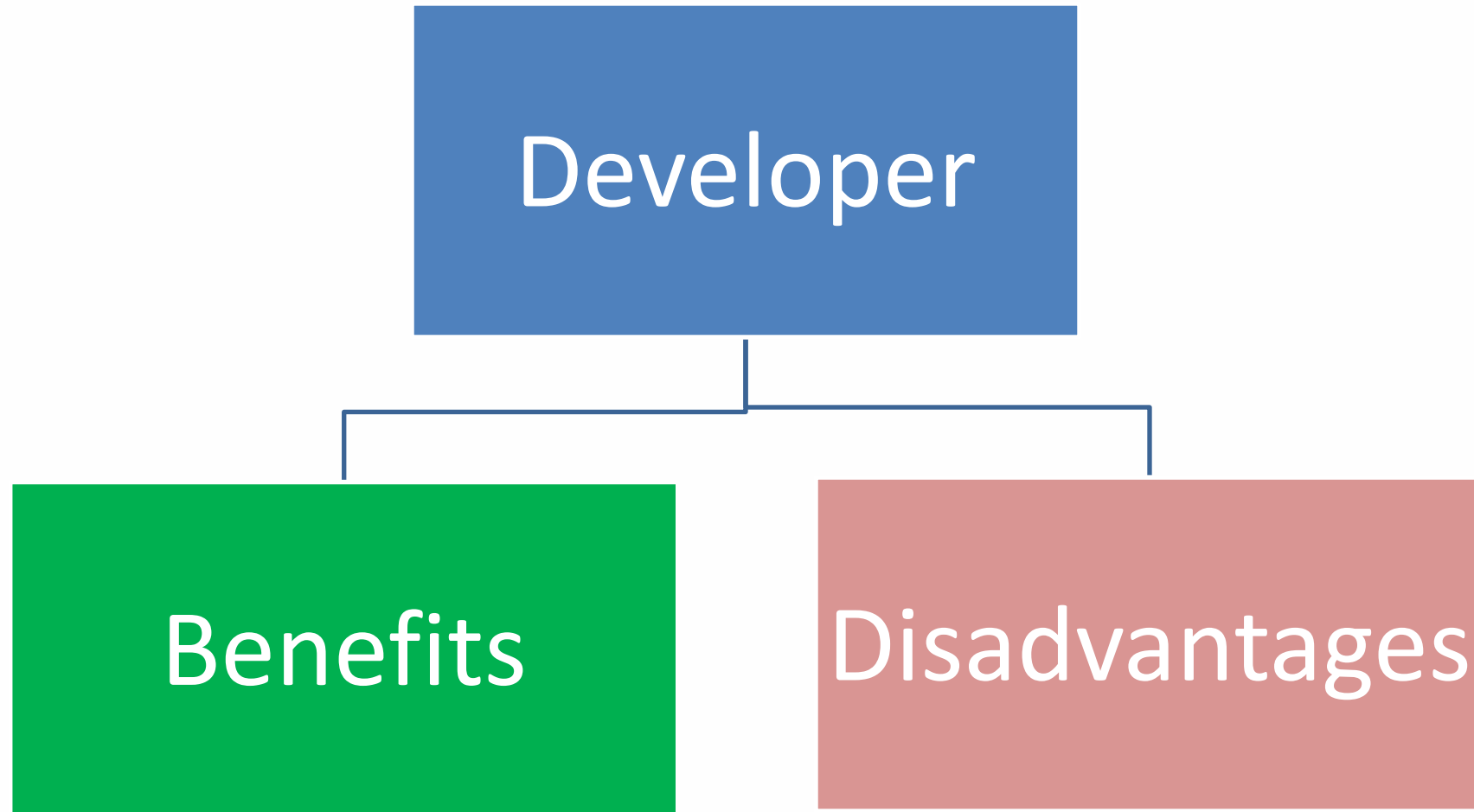
Benefits

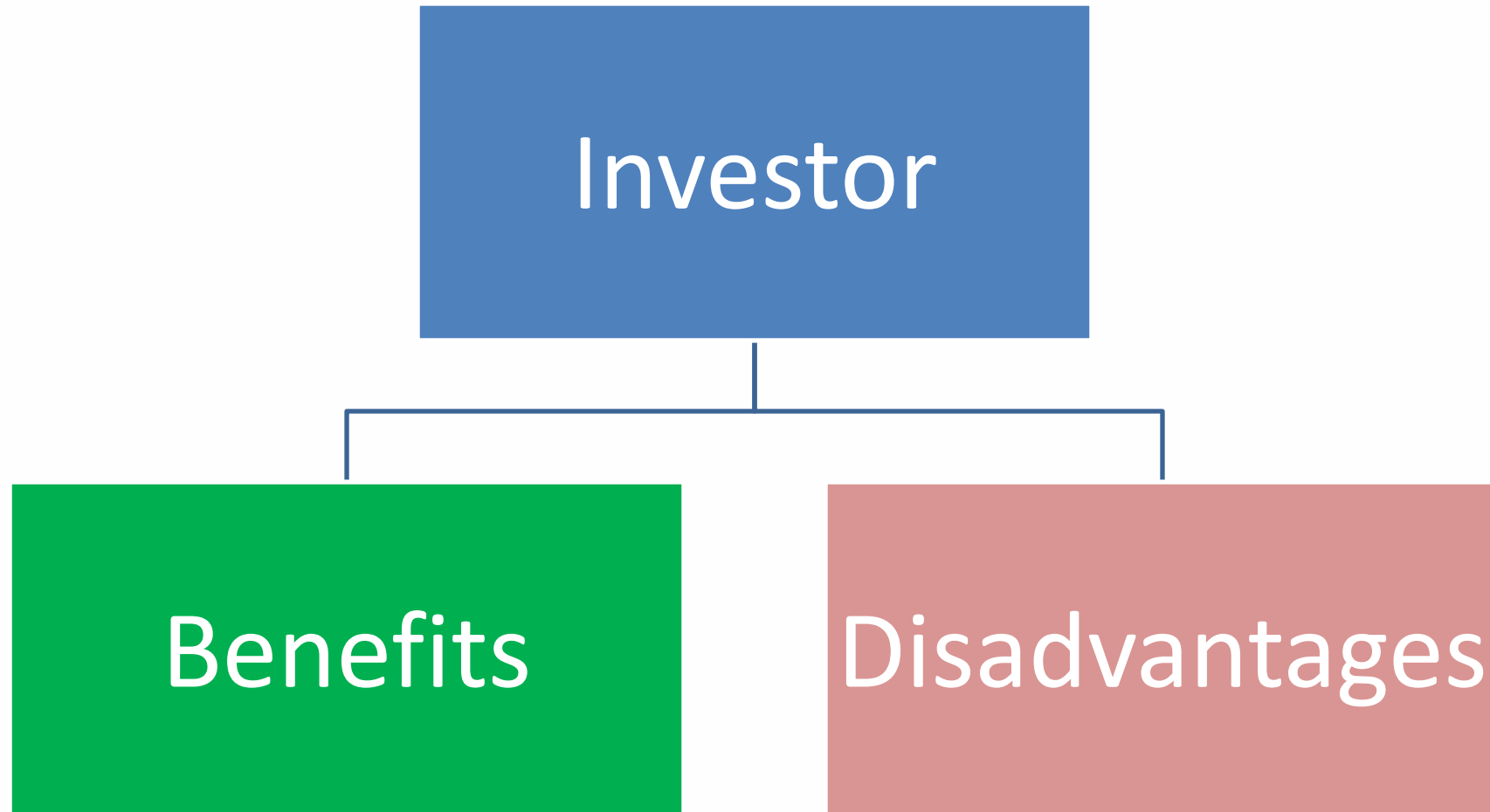
-Initial costs

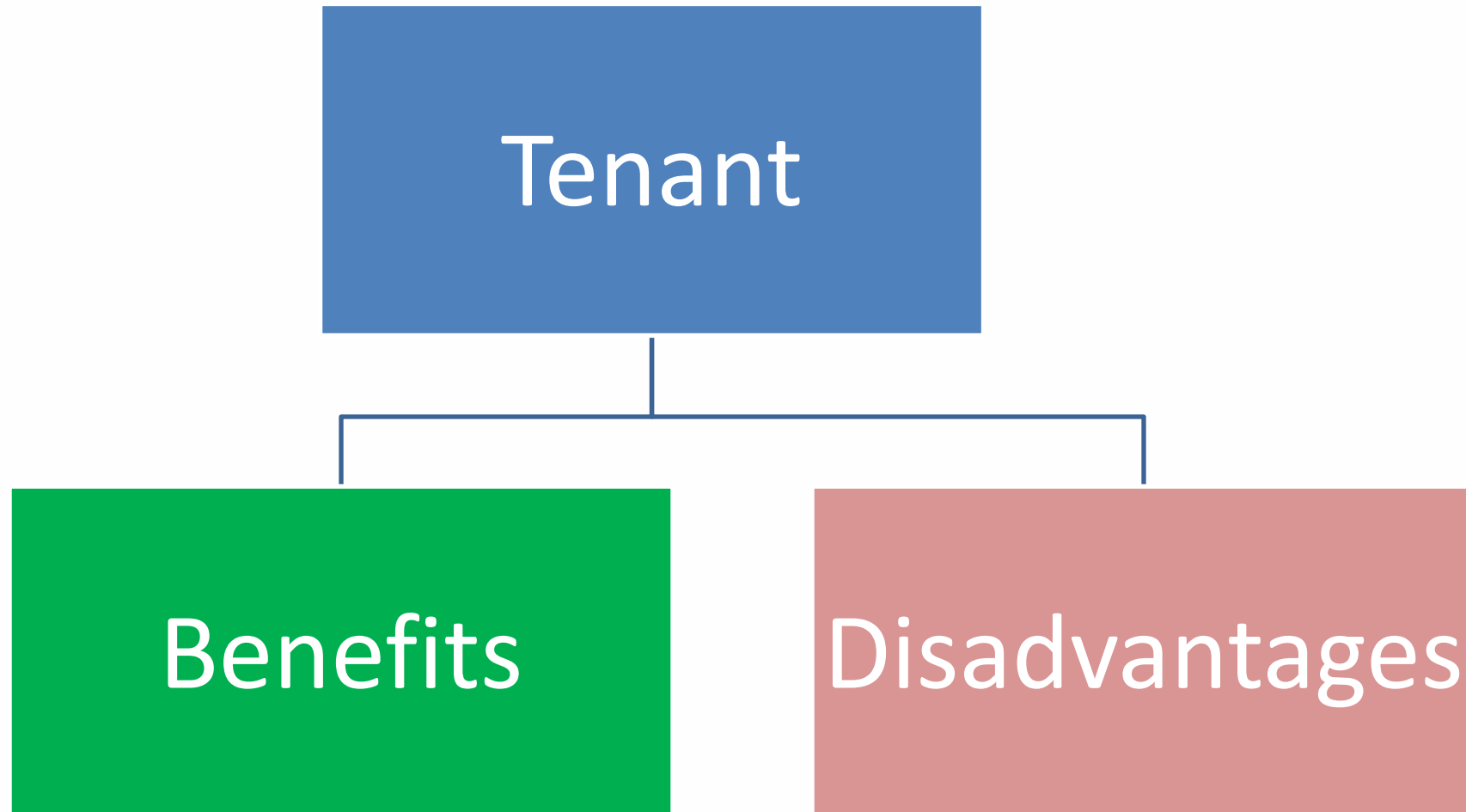
-Costs during operation

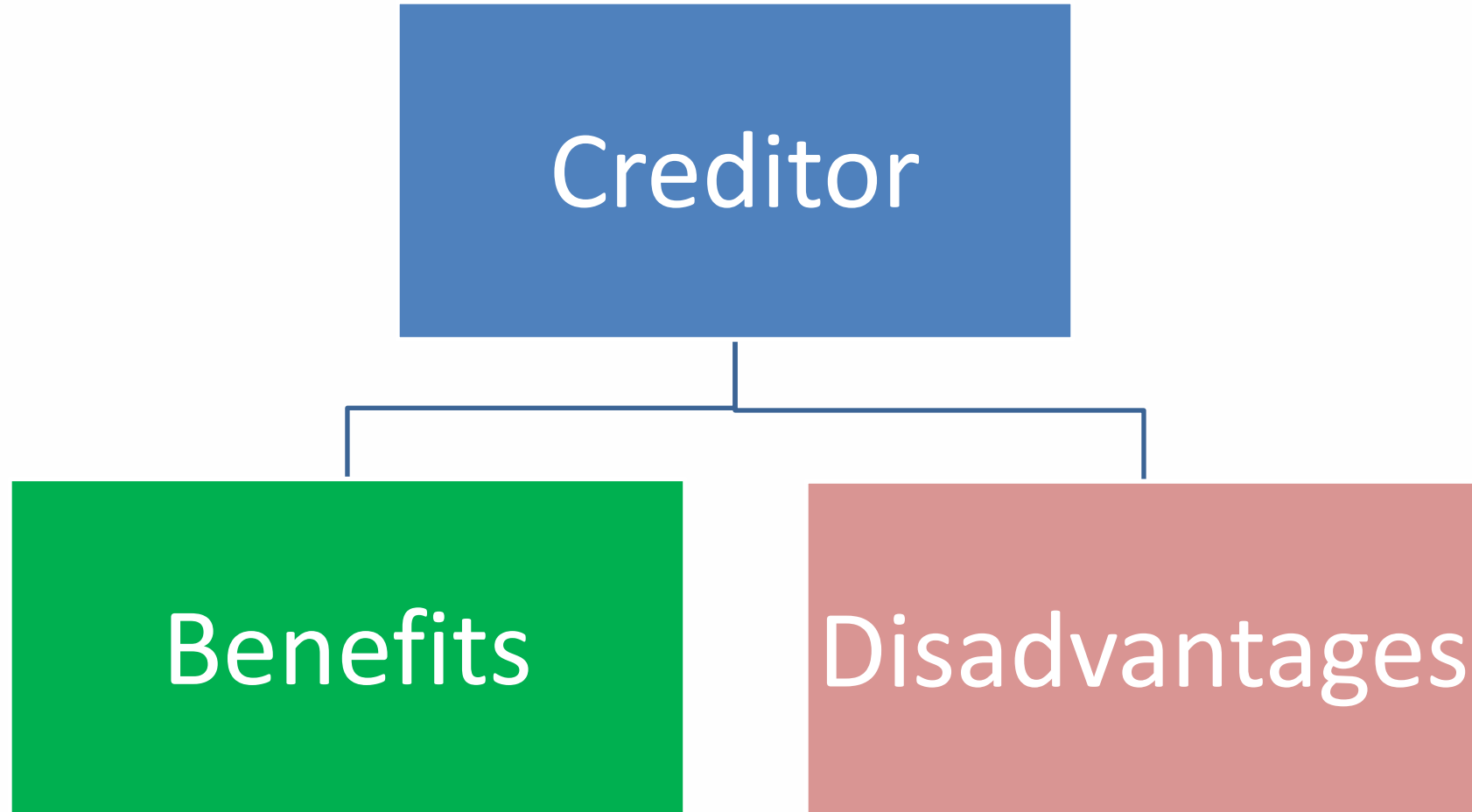
**! BE AWARE of the market`s
capacity of integrating in price
these elements !**











Q&A

How to correctly value a green building?

Cash flows = receipts - payments

The moment of their appearance

Expected rate of return

Determining the present value of the investment

Cash flows - depend on the interested party

Initial payments

Periodic payments during operation

Periodic receipts during operation



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Is it important when cash flows occur?

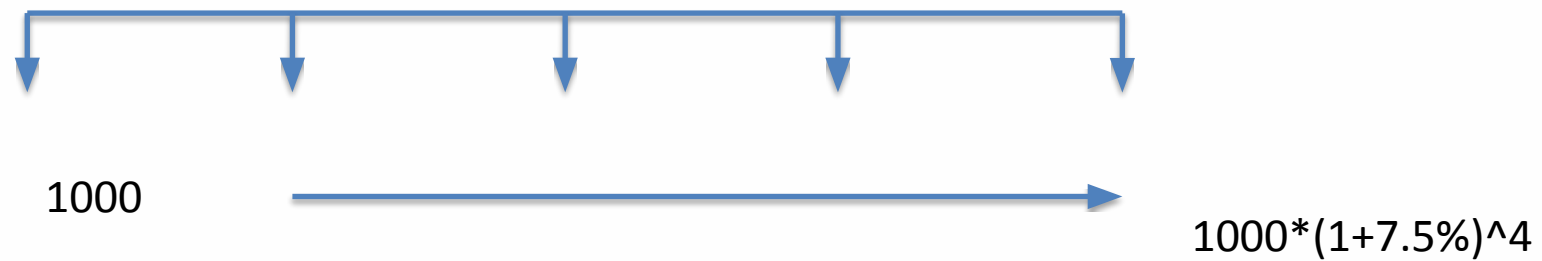


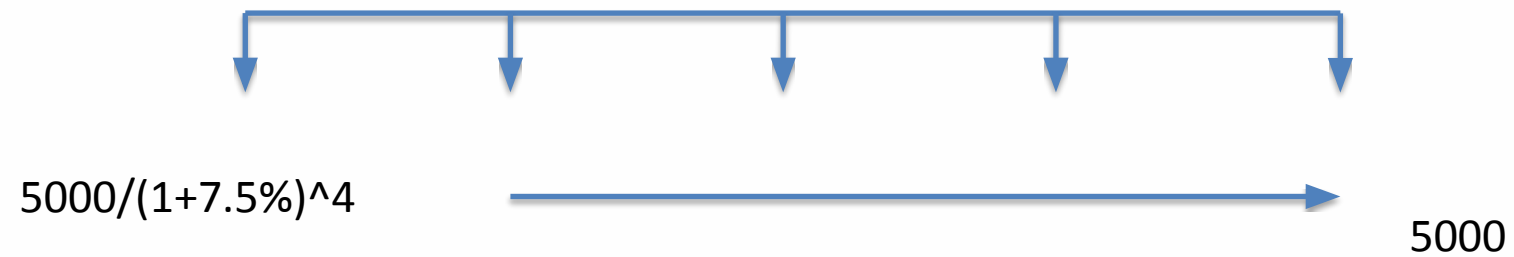
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How do we estimate the expected rate of return?

**Risk and
profitability**





Net present value – fundamental indicator for the investment decision

-

- $$NPV = -I + \sum_{i=1}^n \frac{CF_i}{(1+r)^i} + \frac{RV}{(1+r)^n}$$

- I = the level of the initial investment
- CF_i = Cash flow obtained in the year i
- RV = Residual value
- r = expected rate of return on investment

$$V_i = \frac{C}{1+k} + \frac{C}{(1+k)^2} + \dots + \frac{C}{(1+k)^n} + \dots$$

$$V_i = \frac{C}{1+k} \cdot \left[1 + \frac{1}{1+k} + \dots + \frac{1}{(1+k)^{n-1}} + \dots \right]$$

$$V_i = \frac{C}{1+k} \cdot \lim_{n \rightarrow \infty} \frac{1 - \left(\frac{1}{1+k}\right)^n \rightarrow 0}{1 - \frac{1}{1+k}}$$

$$V_i = \frac{C}{1+k} \cdot \frac{1}{\frac{1+k-1}{1+k}} = \frac{C}{k}$$

Profitability index

-

- $$PI = \frac{\sum_{i=1}^n \frac{CF_i}{(1+r)^i} + \frac{RV}{(1+r)^n}}{I} = \frac{I + NPV}{I}$$

- I = the level of the initial investment
- CF_i = Cash flow obtained in the first year
- RV = Residual value
- r = expected rate of return on investment

Internal rate of return (IRR)

-

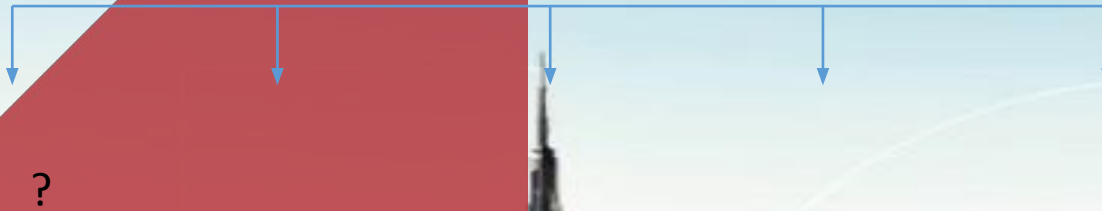
$$-I + \sum_{i=1}^n \frac{CF_i}{(1+RIR)^i} + \frac{RV}{(1+RIR)^n} = 0$$

- I = the level of the initial investment
- CF_i = Cash flow obtained in the first year
- RV = Residual value
- r = expected rate of return on investment

Payback period

- *The period in which the initial investment is recovered based on the cash flows generated by the project*

Investment opportunity analysis



5000 sqm for rent
Construction cost - 1200 Euro / sqm
Monthly rent 14Euro / sqm
Owner expenses 1.5Euro / sqm / month
Occupancy rate 86%
Expected rate of return - 8%

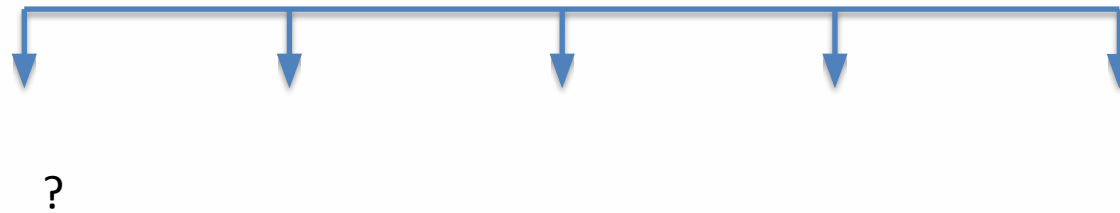
LIFE CYCLE COST

-

- $$LCC = I + \sum_{i=1}^n \frac{C_i}{(1+r)^i} + \frac{\text{Disposal costs}}{(1+r)^n}$$

- I = the level of the initial investment
- C = the cost paid in year i
- Disposal cost = Cost of decommissioning the project
- r = opportunity cost of using capital

The life cycle cost



5000 sqm for rent

Construction cost - 1200 Euro /
sqm

Monthly rent 14Euro / sqm

Owner expenses 1.5Euro / sqm
/ month

Occupancy rate 86%

Opportunity cost of capital 6%

Dilemma

**How do we estimate cash flows for
each category of participants
involved?**

Does the market correctly integrate these elements in the price?

Q&A

Is certification a must?

**The signalling power of the
certification**

Essential Points

LEED Certification
BREEAM Certification
Benefits
Implied Costs
Major Points



LEED

- ✓ type of certification: **LEED for Building Design & Construction**
- ✓ applies to buildings that are being newly constructed or going through a major renovation
- ✓ Core and Shell subtype



- ✓ LEED for Core & Shell development is a green building system that was designed to provide a set of performance criteria for certifying the sustainable design and construction of speculative developments and core and shell buildings. Broadly defined, core and shell construction covers base building elements, such as the structure, envelope and building-level systems, such as central HVAC, etc.
- ✓ The LEED for Core and Shell system recognizes that the division between owner and tenant responsibility for certain elements of the building varies between markets.

BREEAM



Commercial Real Estate Services, Worldwide.

- ✓ type of certification: **BREEAM in USE**
- ✓ for the refurbishment of existing buildings
- ✓ existing buildings of all ages, including heritage properties
- ✓ caters for some residential institutes or commercial properties including public sector
- ✓ The BREEAM ratings are Pass, Good, Very Good, Excellent or Outstanding



WHY LEED

HOW LEED'S BRAND HELPS BUSINESSES GET WHAT THEY PAY FOR

Assurance:

Third-party certification means transparency. Approximately 4.5 billion square feet of space has been certified using LEED, with over 1.8 million square feet certifying every day across more than 150 countries and territories globally. Careful validation ensures that LEED projects are among the most efficient, high-performing buildings throughout the world.

Performance:

More than 65 percent of all possible LEED points in this system focus on tangible outcomes and benchmarks for optimal operations and improvements that can be measured so that buildings continue to save energy, water, and money year after year.

Unrivaled Visibility:

LEED is recognized as the premier mark of achievement for green building leadership across the U.S. and around the globe. The unmatched set of tools, resources, and marketing potential has helped steadily grow the demand for LEED around the world.

Excellent Customer Service:

Users can overcome any obstacle with the help of regular interaction with project reviewers, an award-winning customer service team, and subject matter experts from USGBC and GBCI.

WHY BREEAM

BREEAM at a glance

1st

FOUNDED IN 1990, THE WORLD'S
FIRST
SUSTAINABILITY ASSESSMENT METHOD FOR
BUILDINGS



HOLISTIC MEASUREMENT ACROSS
9
CATEGORIES



APPLIED IN OVER
70
COUNTRIES WORLDWIDE



80%
EUROPEAN MARKET SHARE



ADAPTABLE
TO LOCAL AND CLIMATIC CONDITIONS



1000'S
OF LICENSED ASSESSORS WORLDWIDE



BRE SCIENTIFICALLY BACKED
STANDARDS



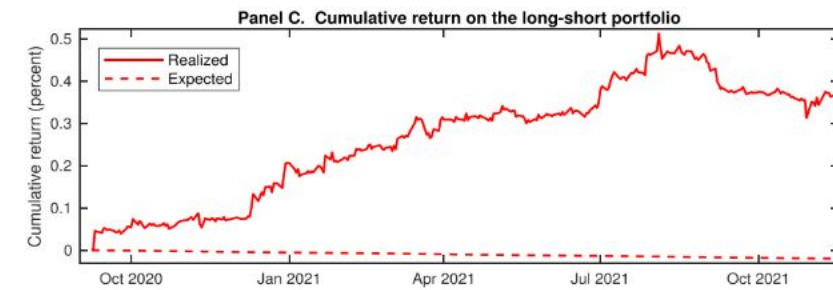
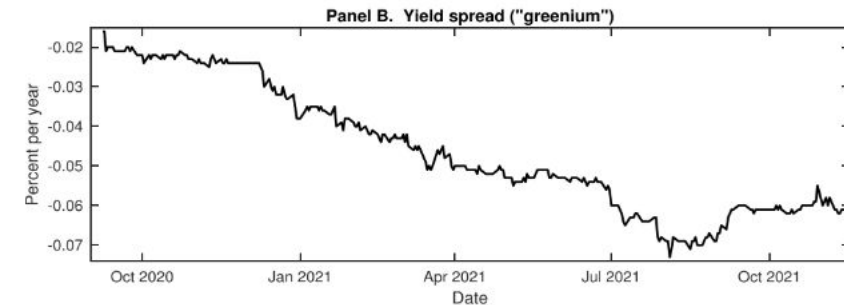
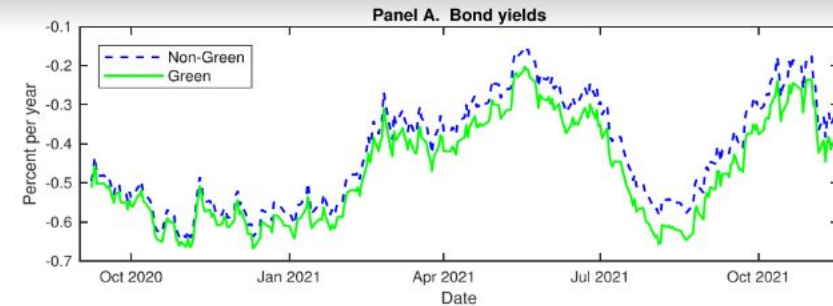
DRIVING BUILDING SECTORS TO
INNOVATE



INCREASED
FINANCIAL
RETURNS FOR INVESTORS

MODERN GREEN FINANCING INSTRUMENTS

- Credits for acquiring green homes
- Green bonds



Thank You !

