



International Real Estate Business School
Universität Regensburg



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Ethics and Discounting: Antagonism or Interrelation?

Real Estate and its Intergenerational Responsibility within a changing Environment

Thomas Braun, Sven Bienert, Richard Reed

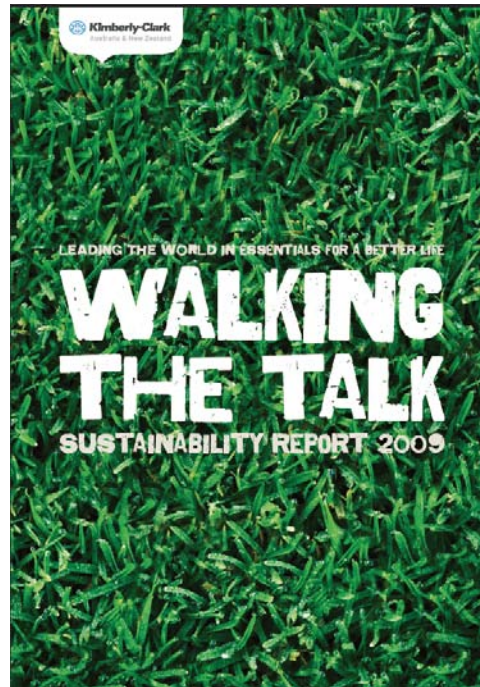
Reflection!!!

**What can real estate market valuation learn from
environmental economics?**

Agenda

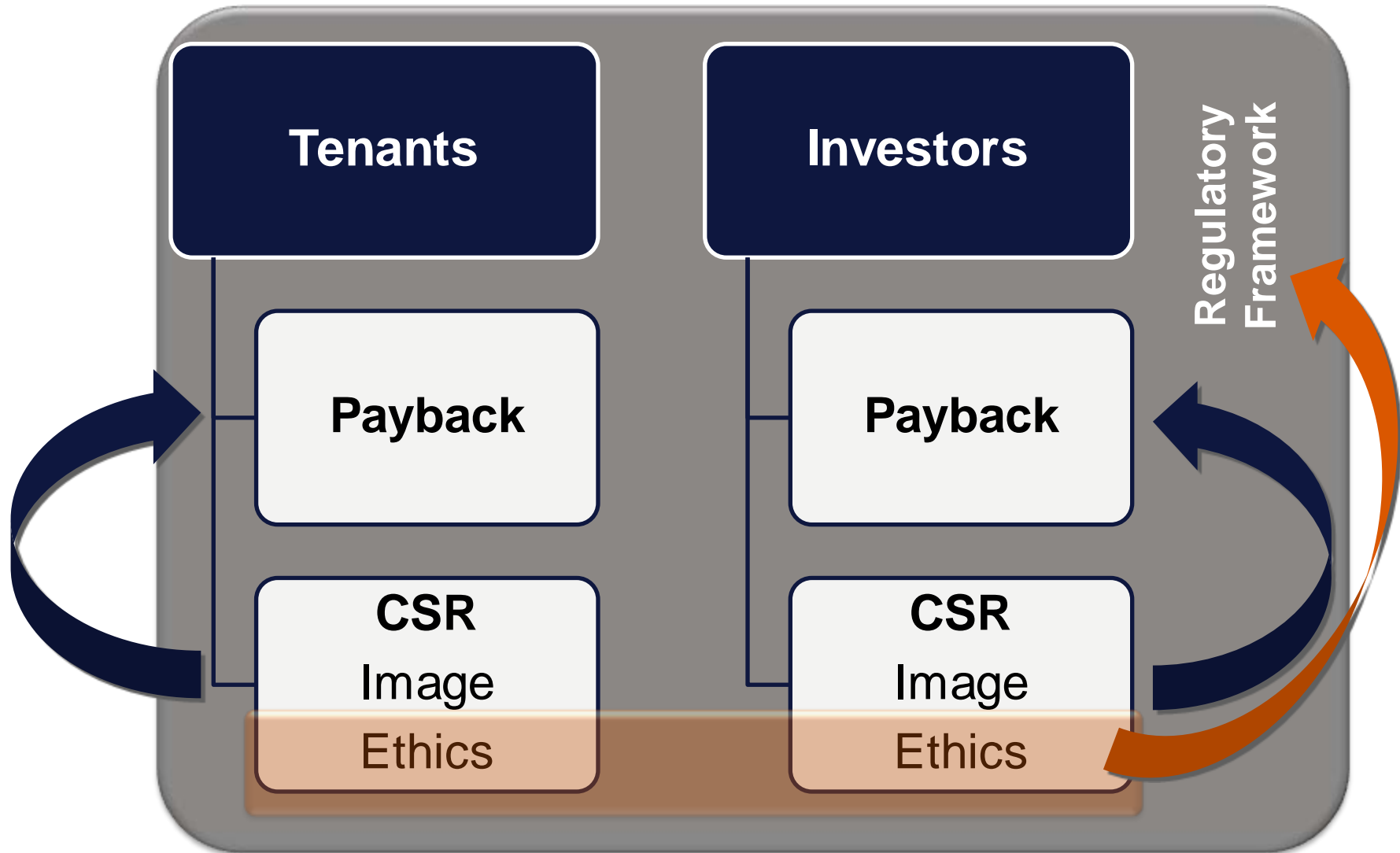
1. Introduction: What is sustainable thinking/ acting?
2. Definition: Intergenerational Justice within a Sustainability Framework
3. Social Discounting in the Environmental Economics
4. What can RE Market Valuation learn from Environmental Economics?
5. Conclusions
6. Outlook to RE Investment Valuation

What is sustainable thinking/ acting about in RE?



Intergenerational Justice within a Sustainability Framework

Potential Drivers of Sustainable RE



Intergenerational Justice within a Sustainability Framework Starting with Brundtland



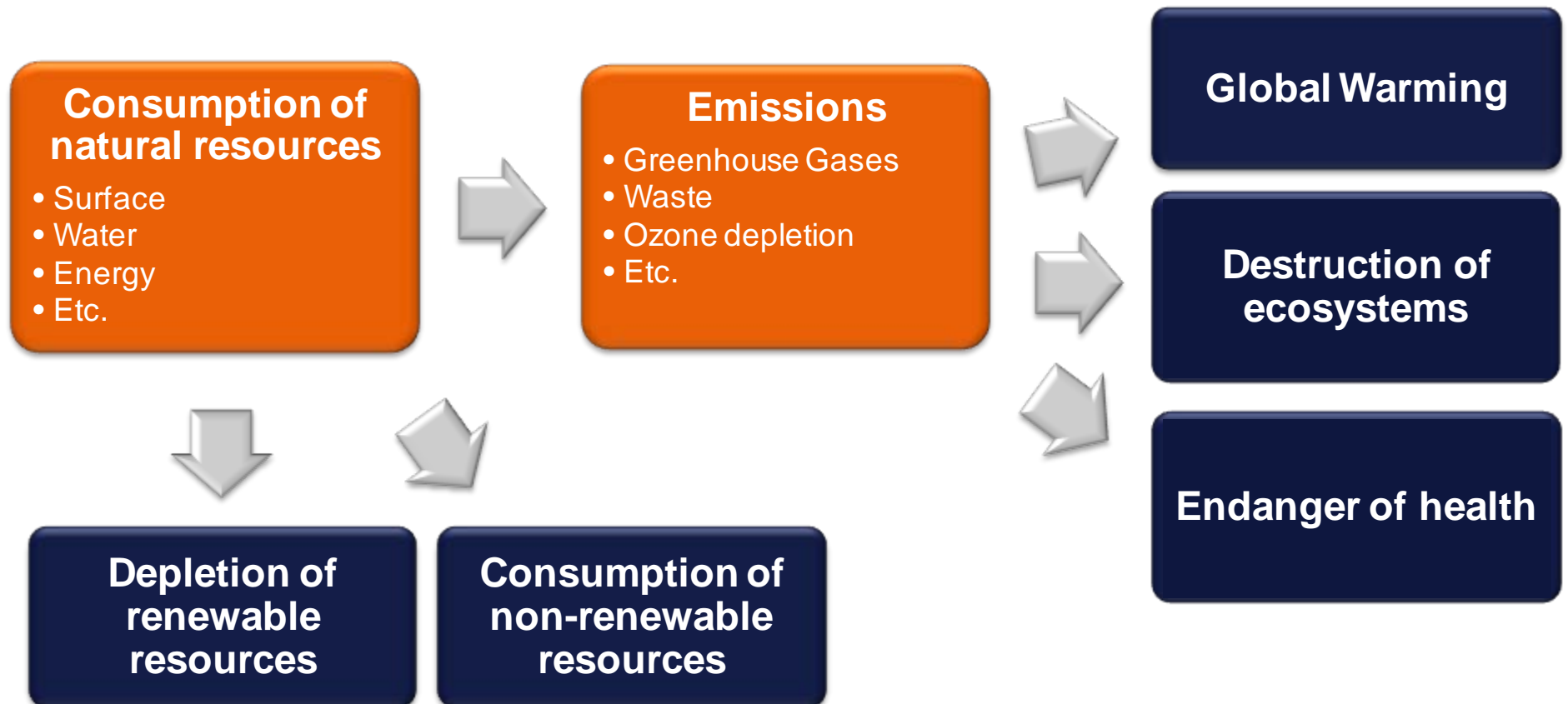
"Sustainable development is development that meets the needs of the present without compromising the **ability of future generations** to meet their own needs"

Brundtland 1987

➔ **Intergenerational Justice**

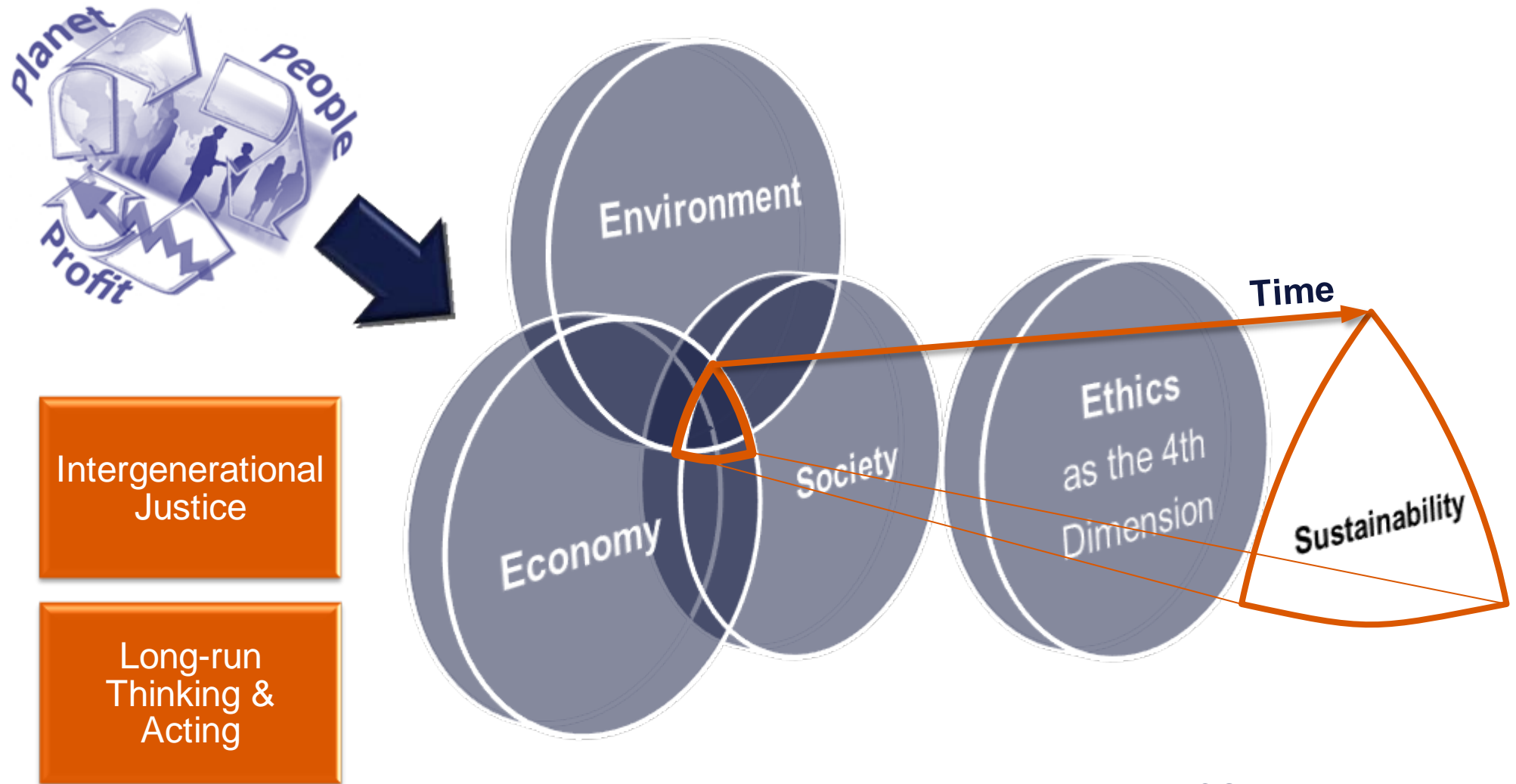
Intergenerational Justice within a Sustainability Framework

The importance of intergenerational justice



Intergenerational Justice within a Sustainability Framework

From Triple P-ottom Line to Triple Bottom Line +1



„Ethics“ NOT in terms of an established RICS-Definition!!!

Social Discounting in the Environmental Economics

To illustrate the problem – What says the Stern-Review?

- Climate change is the result of an externality, which differs from other externalities:
 - It is **global** in its causes and consequences
 - The impacts of climate change are **long-term and persistent**
 - **Uncertainties and risks** in the economic impacts are pervasive
 - There is a serious risk of major **irreversible change with non-marginal economic effects**
- Questions of intra- and intergenerational equity and justice are central

Social Discounting in the Environmental Economics

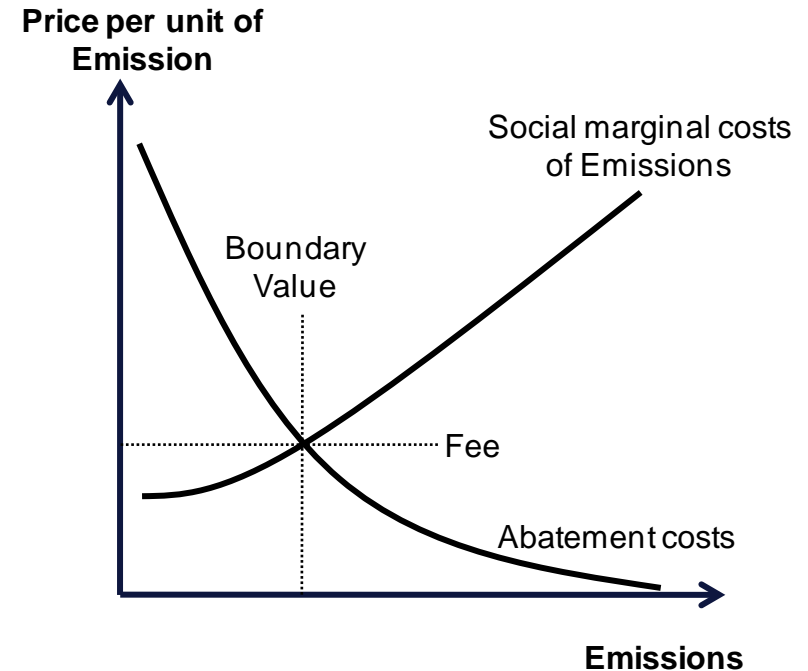
Discounting – Stern-Fundamentals

- Why discounting at all? – Opportunity costs of capital
 - Pure time preference: “having good things earlier rather than later”
 - Growing consumption: “future generations are richer”
 - Uncertainty and risk
- High discount rate is less social, i.e. environm. economists use a lower, a social discount rate
 - Ramsey-Equation: $\rho = \eta \frac{\dot{c}}{c} + \delta$
 - δ : pure rate of time preference $\rightarrow 0$ (Stern)
 - η : elasticity of marginal utility
 - \dot{c}/c : growth rate of consumption along the path
 - e.g. Stern Review: $1,4\% = 1 * 1,3\% + 0,1\%$ (minimizing the pure rate of time preference)

What can RE Market Valuation learn from Environmental Economics?

Internalizing externalities in RE

- Classical possibilities to internalize negative effects derived from microeconomics:
 - Boundary value: e.g. energy saving regulation
 - Fee: e.g. tax on the carbon emissions of buildings
- In common: Quantity or price is affected directly

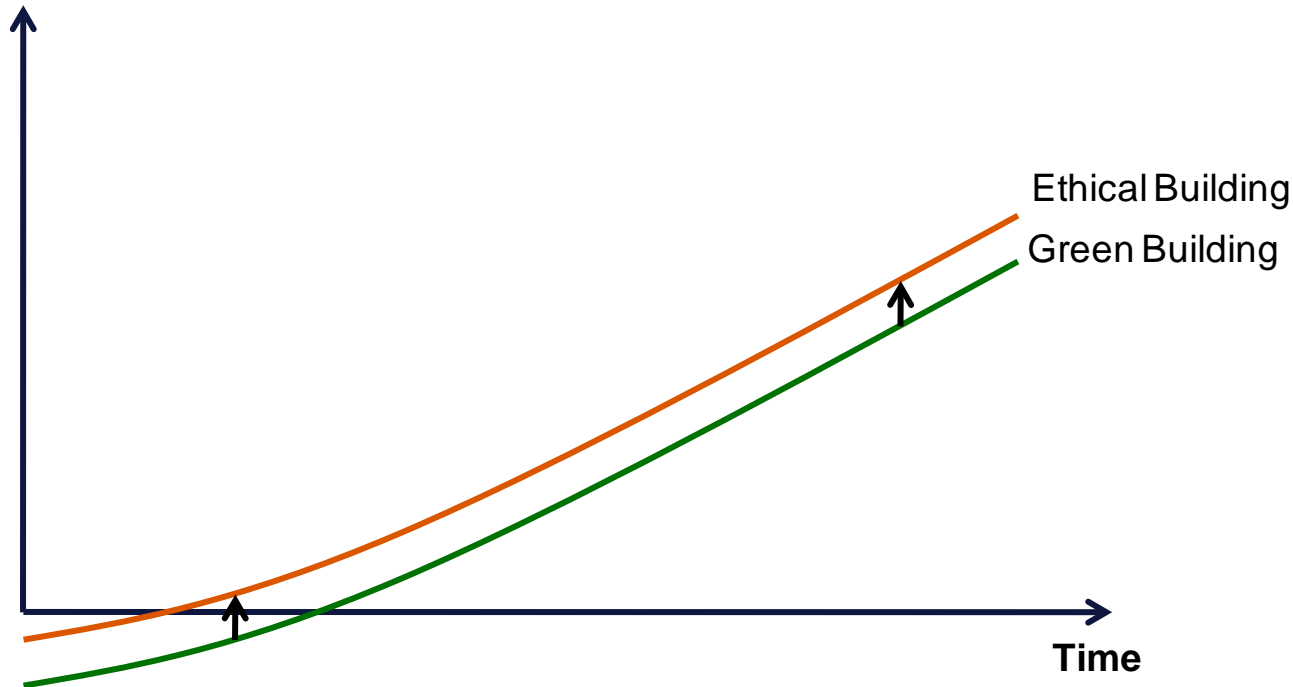


➔ But maybe the externality is within the (pricing) method we use

What can RE Market Valuation learn from Environmental Economics?

What to do?

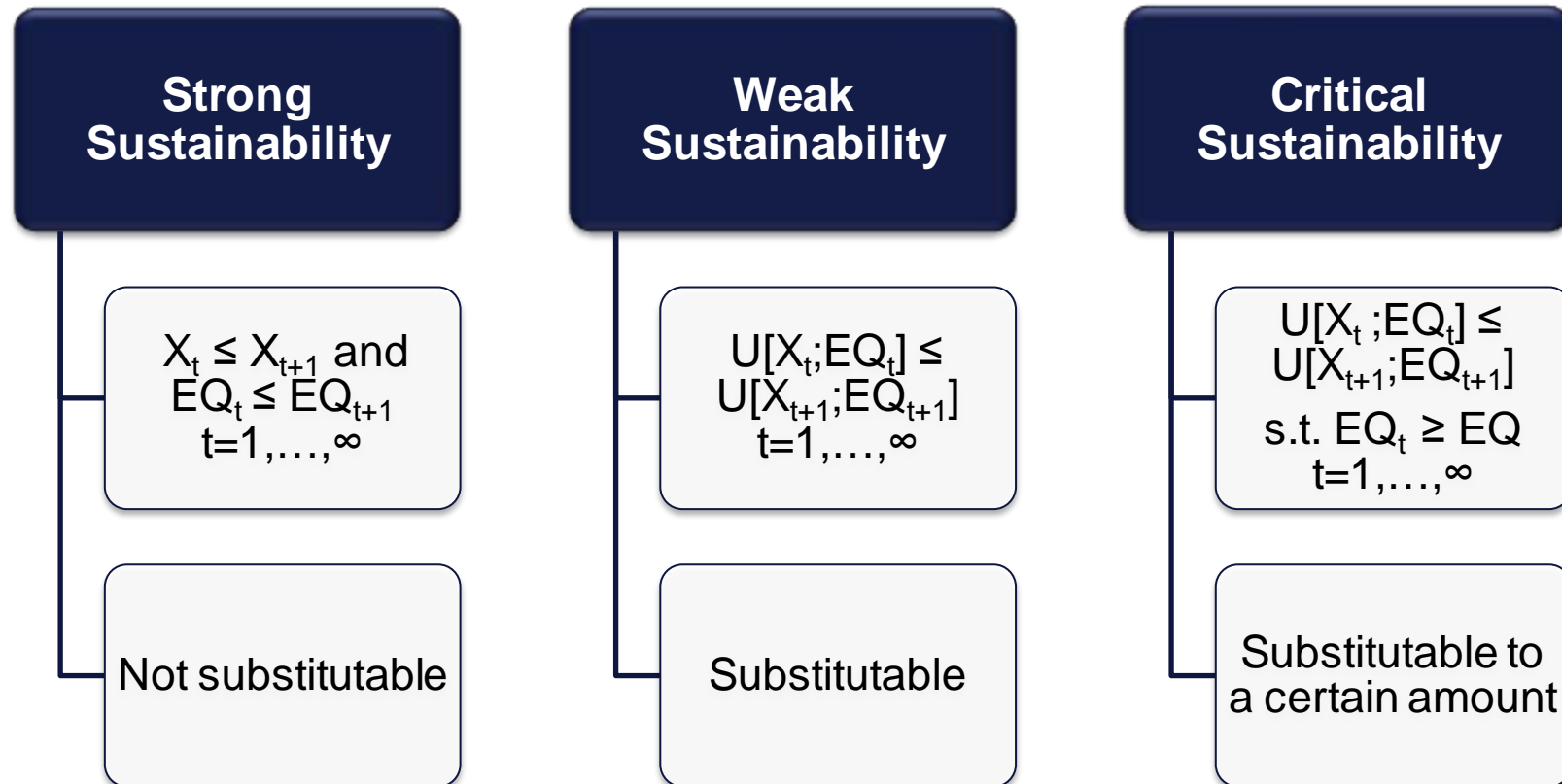
Market Price c.p. minus the M.P. of
a Conventional Building



- Internalize the intergenerational externality! How?
- Use an objective, a quasi-obligatory decreased discount rate within RE market valuation for ethical buildings

What can RE Market Valuation learn from Environmental Economics?

Sustainability concepts in general



Totally substitutable? → Price mechanism driven over time

What can RE Market Valuation learn from Environmental Economics?

Sustainability concepts in RE – defining an ethical building



■ What is an ethical building about?

It can be described best by those indicators of a sustainable building, that refer to those externalities that have not been completely internalized yet like Recycled Content, On-Site Renewable Energy, Green Power, etc.



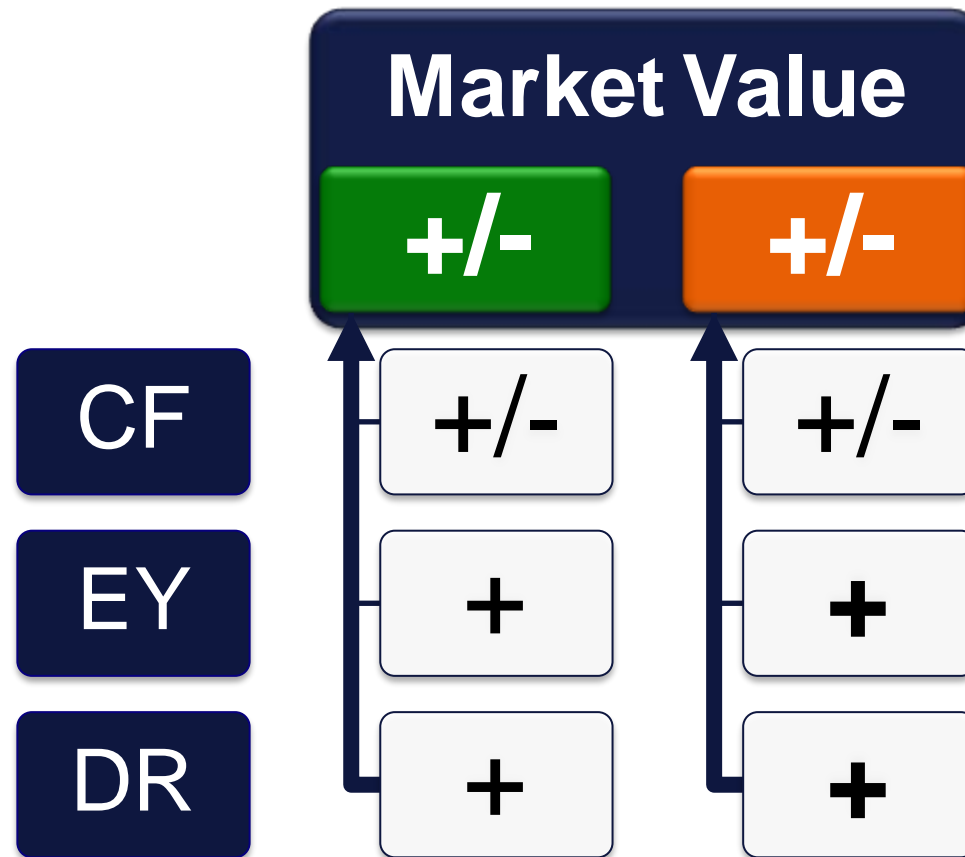
What can RE Market Valuation learn from Environmental Economics?

Green & Ethical Impact on Net Cashflow, Exit Yield and Discount Rate



What can RE Market Valuation learn from Environmental Economics?

Green & Ethical Impact on the Market Value



Conclusions

- Intensive discussion (since the Stern Review) applies to both environmental economics **and** private sector
- In many countries, the social interest rates (environmental economics) are still too high,.
What about an ethical discount rate?
- Market discount rate and ethical discount rate should differ
- As the ethical discount rate should contain the market failure/ intergenerational altruism, the market discount rate should be higher
- Operationalisation is difficult
- For the future, there should be Interrelation but until now for most people it is still an Antagonism

Outlook in general

- In general, is this approach reasonable or too radical?
- If the former: Operationalisation of an ethical discount rate is a challenge
 - In terms of intergenerational justice what is an ethical building in details about?
 - How can you define an ethical building in details? (indicators...)
 - How to construct an ethical discount rate?
 - What is the right way to implement an ethical discount rate?
- What can real estate investment valuation learn?

Outlook to RE Investment Valuation

- A company faces the decision to invest in energy-saving bulbs (4 years payback period and a 10% discount rate

NPV	Year 0	Year 1	Year 2	Year 3	Year 4
-1,321	-14,000	+4,000	+4,000	+4,000	+4,000

→ No investment!!!

- NPV@5%: **+183**; NPV@0%: **+2,000**
- The simple relation is: the higher the discount rate, the less attractive is retrofitting
- Classic practical recommendation: Use a market discount rate → Barrier to sustainable investment
- Payback period for sustainable investments?

r_{SRI}



r_i

- Maybe a time-preference extension of the CAPM?

**Thank you very much for your attention
and your comments**