73 NRP Sustainable Economy
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FNSNF Swiss National Science Foundation

"Advancing dynamic governance of business models and public policy" - Transition management of the swiss construction industry

"Business models stimulate or lock in transition dynamics"

Daniel Kliem, FHS St Gallen, University of Bergen
Alexander Scheidegger, FHS St Gallen

Business models in the construction industry couple economic success to material turnover. As a result, economic goals increasingly conflict with policy on resource efficiency and environmental impacts. Policies tend to prescribe goals, rather than allowing for dynamic evolutions. Progressing policy design from linear top-bottom approaches towards dynamic collaborative designs, requires a co-evolutionary perspective. Understanding the co-evolutionary mechanisms between business models and public policies reduces systemic push-back and uncover potential "side-effects".

RESEARCH QUESTIONS

1. What are the central co-evolution mechanisms driving alternative business models and regulation in the swiss construction industry?
2. How can this co-evolution process be directed towards sustainability?

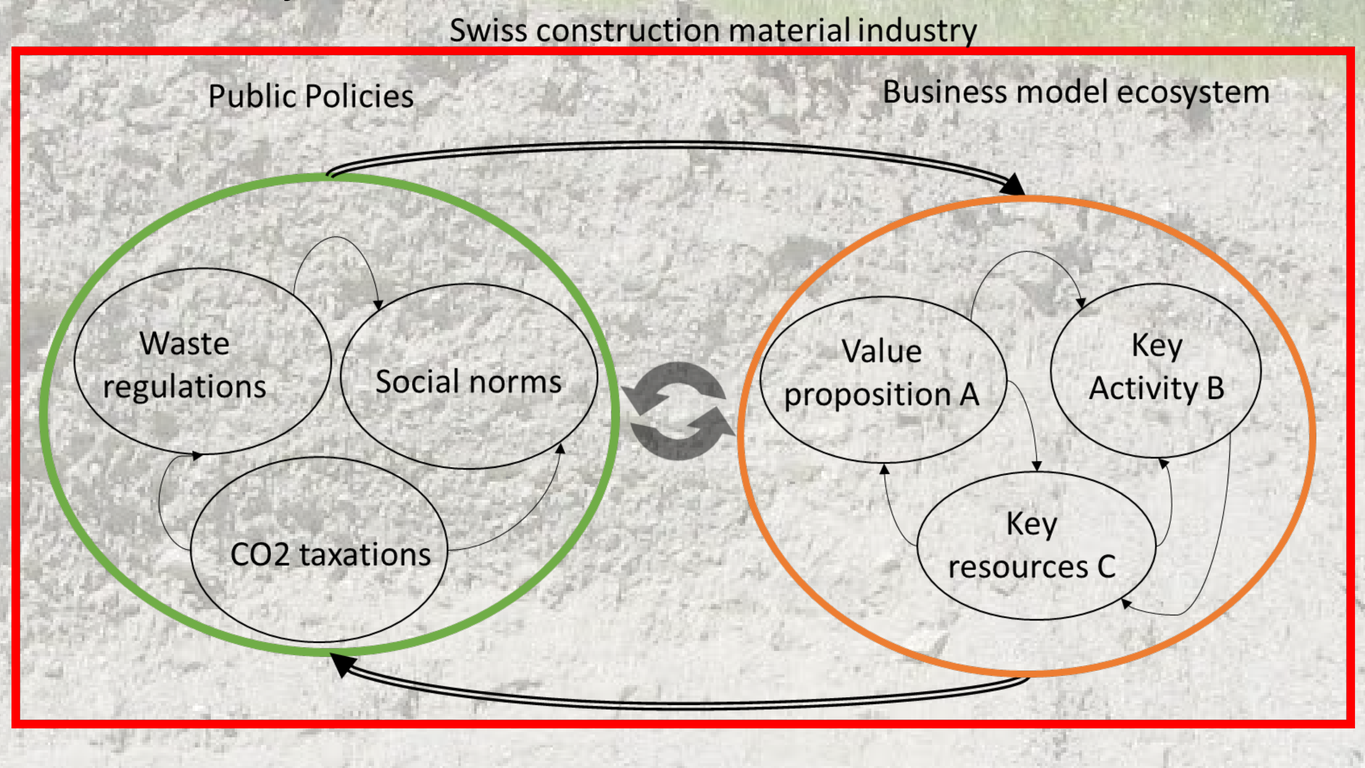
RESEARCH APPROACH

Simulation of co-evolution between public policies and business models

Group model building **to define system boundaries.**

Case study analyses **to develop a dynamic business model environment** of the construction material industry.

Scenario analysis is used **to evaluate the effect of alternative policy** designs with stakeholders in a series of GMB workshops.



EARLY INSIGHTS

The business model ecosystem is dominated by price driven feedback loops that lead to a lock-in effect.

Extraction of gravel (BM1)
- Cross-subsidizing with on-site disposal of demolition material.

Recycling of demolition material (BM2)
- Low capacity
- No cross-subsidies

BM1 benefits from this lock-in effect and without policy interventions there is no tipping point towards BM2.

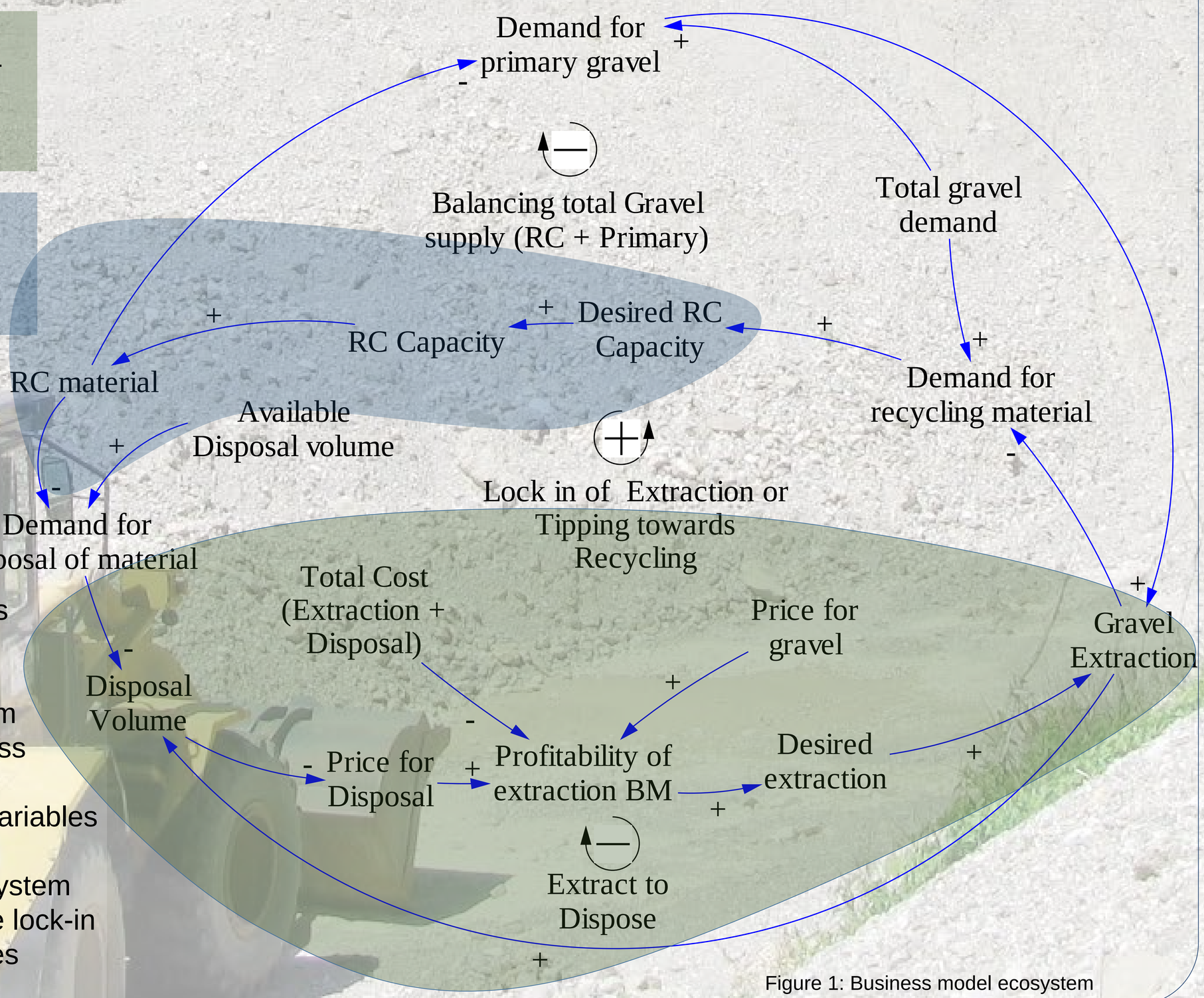


Figure 1: Business model ecosystem

Next steps
- Classifications of business models
- Detection of dynamics in business model ecosystem
- Parametrization of business models
- Identification of relevant variables
- Quantification of different (transition) states of the system
  - Definition of regime lock-in
  - Simulation of Niches

FHS St.Gallen Hochschule für Angewandte Wissenschaften

Universitas Bergensis