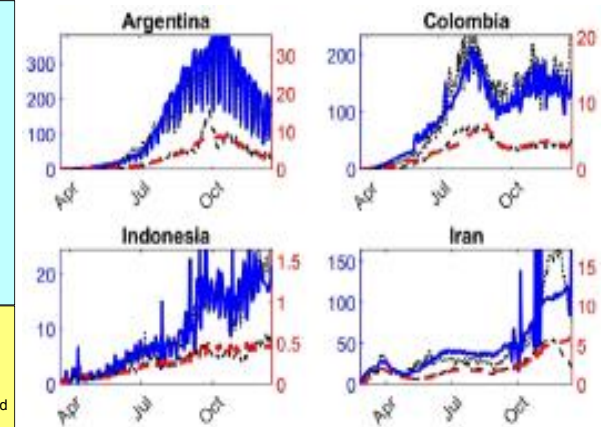
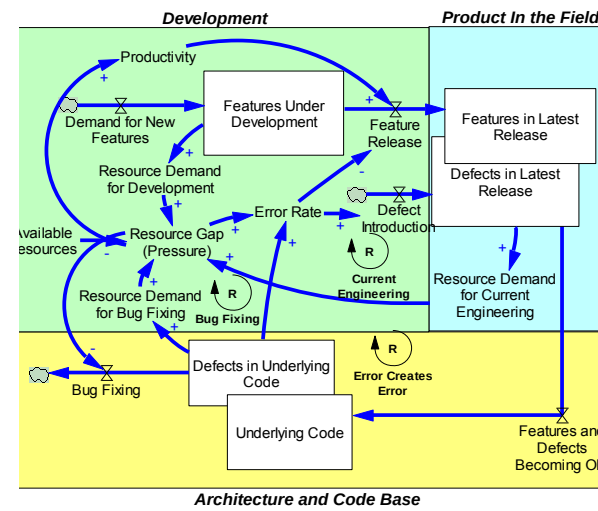
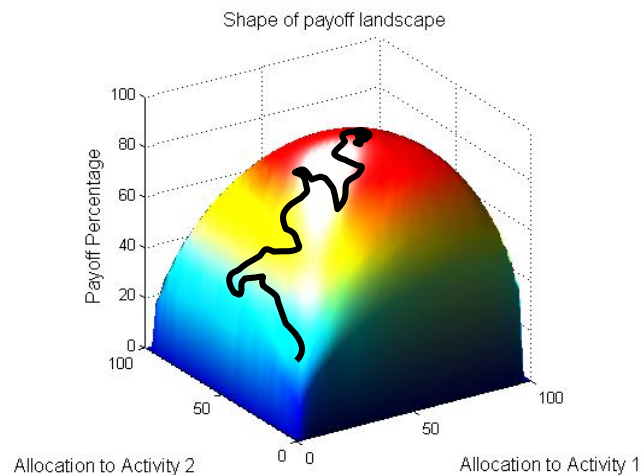
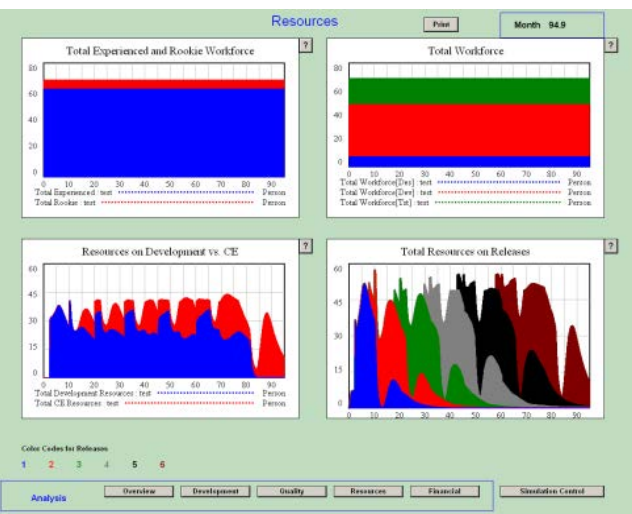


System Dynamics Research Seminar

Week 6: Ponzi

15.879, Spring 2025



S06: Ponzi Model

- Build a simple model of Ponzi story
- Start grounded in the case, but try to make the formulations generic so they could be parameterized for other setups (e.g. Social Security)
 - Tests?

Model S6- Common Challenges

- How to make the timing of investment vs. expectations of return to work
- How to model trust:
 - Visibility to what is happening inside the business
- Computational costs with an ABM implementation
- Generalizing to other problems, e.g. Social Security

Model S6- What I look for

- Solid cash vs. liabilities stocks and flows
- Investor acquisition, withdrawal and their drivers
 - WoM and saturation
 - Risk and reward impacts
- Reputation
 - Operational and well-balanced
 - Connected to risk/reward
- Robustness to extremes (cash, reputation, ...)

Next Session (April 4): Market Growth

- Model of a firm in a monopolistic setting:
 - Durable product with a total market size, from inception to maturity.
 - Product sold through direct sales force. The firm allocates a fraction of its total revenue to its salesforce. Their productivity limited by availability of interested customers and delivery delay reputation.
 - Manufacturing operation with a backlog, rather than holding inventory.
 - Excessive delivery delay is the primary signal to the firm for expanding their production capacity

What are good tests of performance and robustness for the resulting model?

- Inputs:
- Outputs:
- Expected behaviors:
- Robustness tests:

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