Thesis title

Motivation:

- Agent based modeling is closer tied to the real world than common economic equations.
- With today's extensive compute power technology, it computationally viable to simulate a large enough amounts of agents with aequatetly complex interactions to derive macroeconomic results from microeconomic theory and experimentation.

Background: https://www.sciencedirect.com/science/article/pii/S0014292122001891

- Defineing some external enviroment is nessecary for a realistic ABM because any system unless all variables are completly unaffected by an external enviroment, cannot be represented and simulated in its entirity unless the whole universe is simulated.

Method:

1. Define agents from common sence(as of now initially)
2. Define interacions from common sence(as of now initially)
3. Define external enviroment form the OECD database or similar
4. Define initial conditions from the OECD database or similar
5. Simulate many times (monte carlo) with random variables being reset each time
6. Compare with AR(0) and other status quo economic predictors
7. Reajust agent paremeters, agent interactions and enviroment from result of comparison using reinforcement learning

Agents definitnions:

- Government
  - Inputs
  - Inner structure
  - Outputs
- Central bank
  - Inputs
  - Inner structure
  - Outputs
- Bank
  - Inputs
  - Inner structure
  - Outputs
- Company
  - Inputs
  - Inner structure
  - Outputs
- Household
  - Inputs
  - Inner structure
  - Outputs