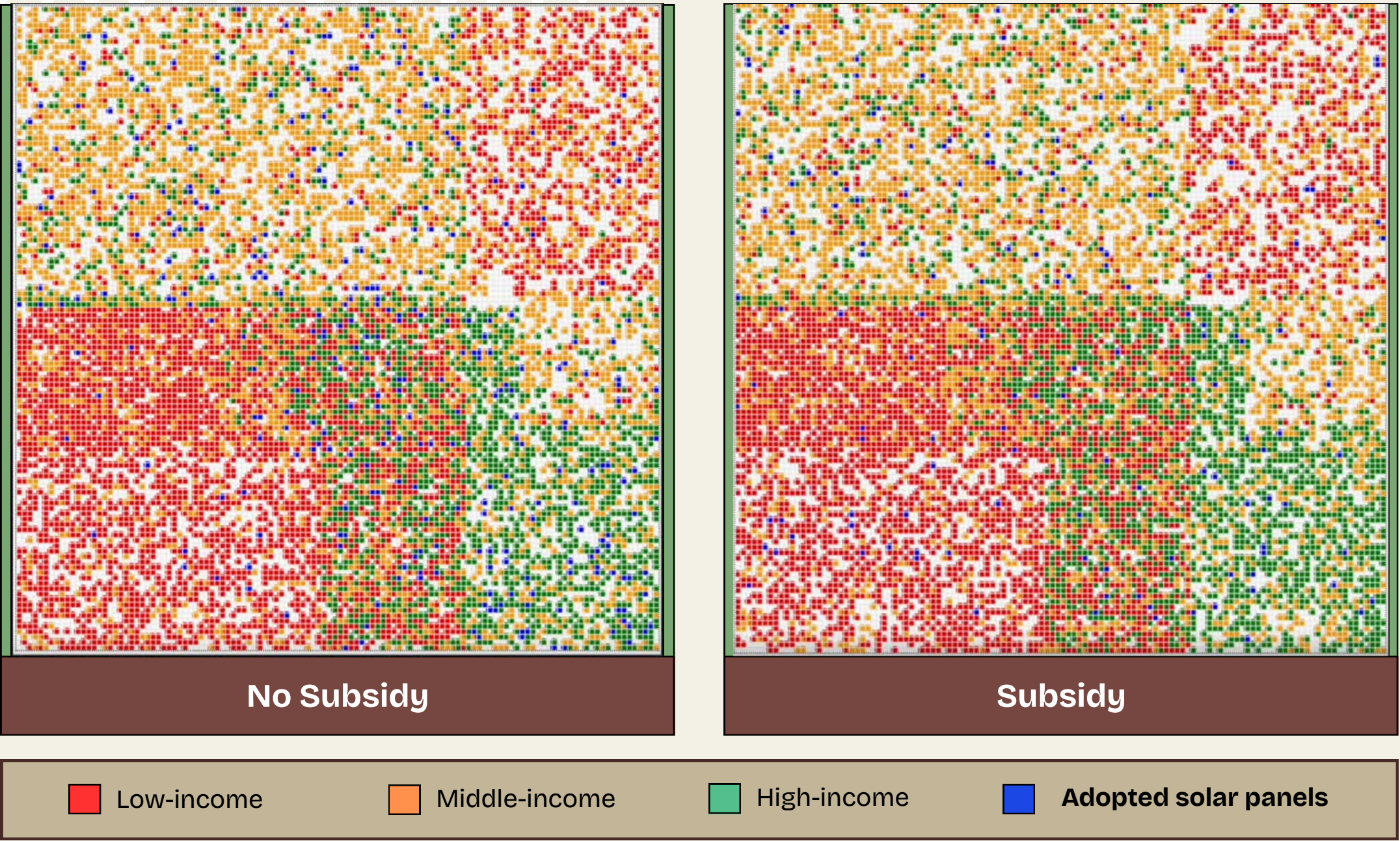


Household Adoption of Renewable Energy

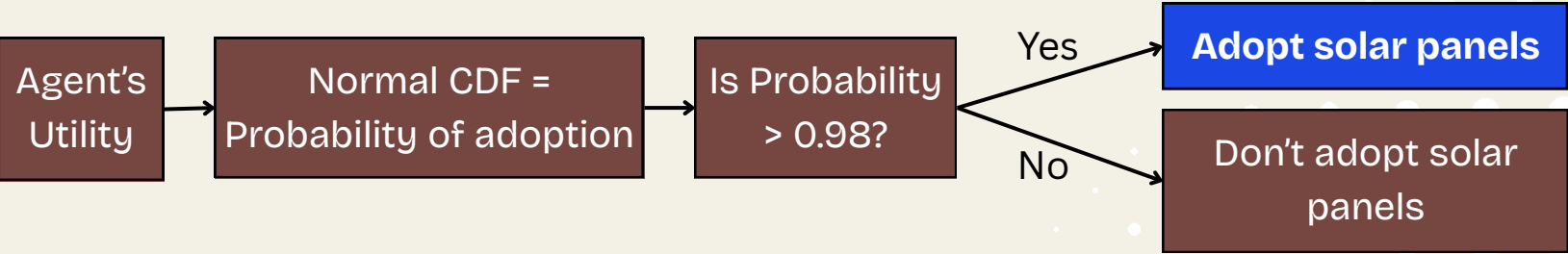
Subsidy influence on solar panel adoption

Utility(agent)= $(\beta_1 \cdot \text{income})$
+ $(\beta_2 \cdot \text{environmental_consciousness})$
+ $(\beta_3 \cdot \text{fraction_with_solar})$
- $(\beta_4 \cdot \text{stubbornness_factor})$
+ $(\beta_5 \cdot \text{education_level})$
+ $(\beta_6 \cdot \text{subsidy(agent)} \times \text{subsidy(city)})$
+ $(\beta_7 \cdot (1 - \text{type}))$
+ noise

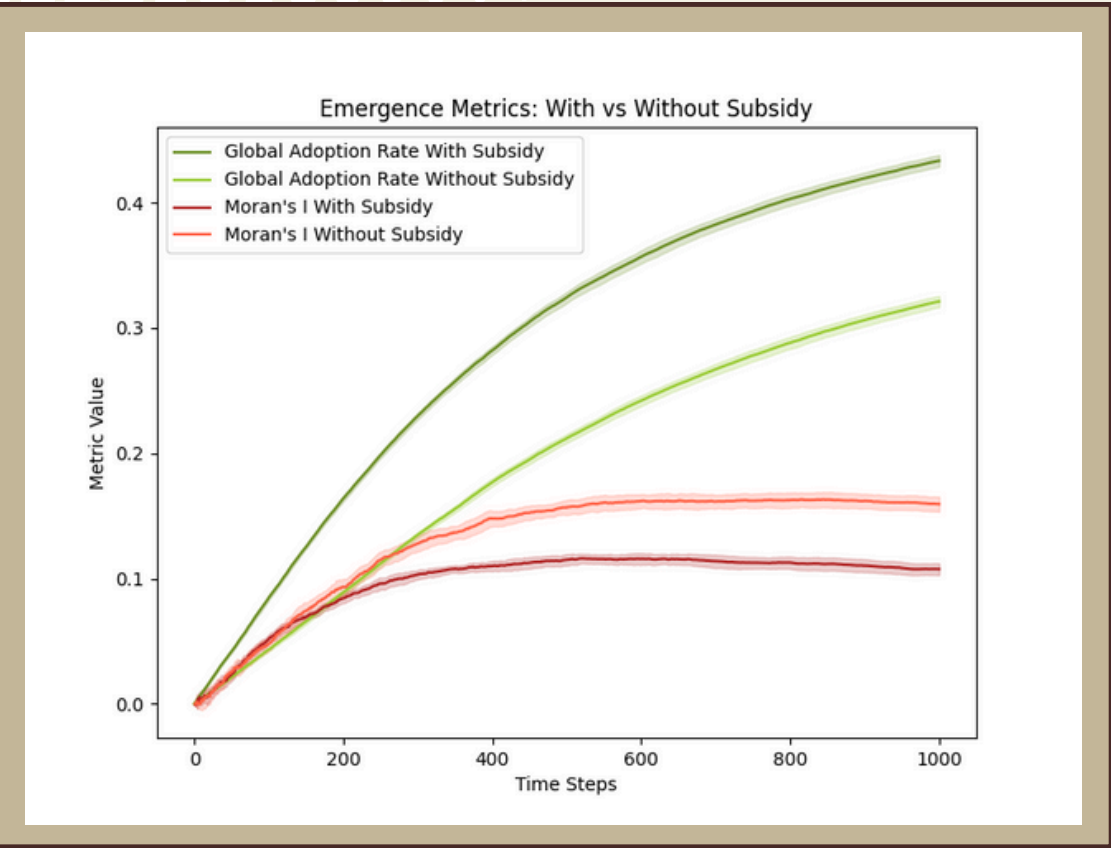
Name	Values	Description
Income	{1, 2, 3}	Household income level (low, medium, high)
Environmental Consciousness	[0,1]	Household's environmental concern
Fraction with solar	[0,1]	Fraction of neighbours with solar panels
Stubbornness Factor	[0,1]	How easily household can be influenced
Education Level	{1, 2, 3}	Household average education level
Subsidy	[0, 1]	<ul style="list-style-type: none">Agent level: eligibility of receiving subsidyCity level: subsidy is introduced or not
Type	[1, 2]	Household 'is' a house or apartment



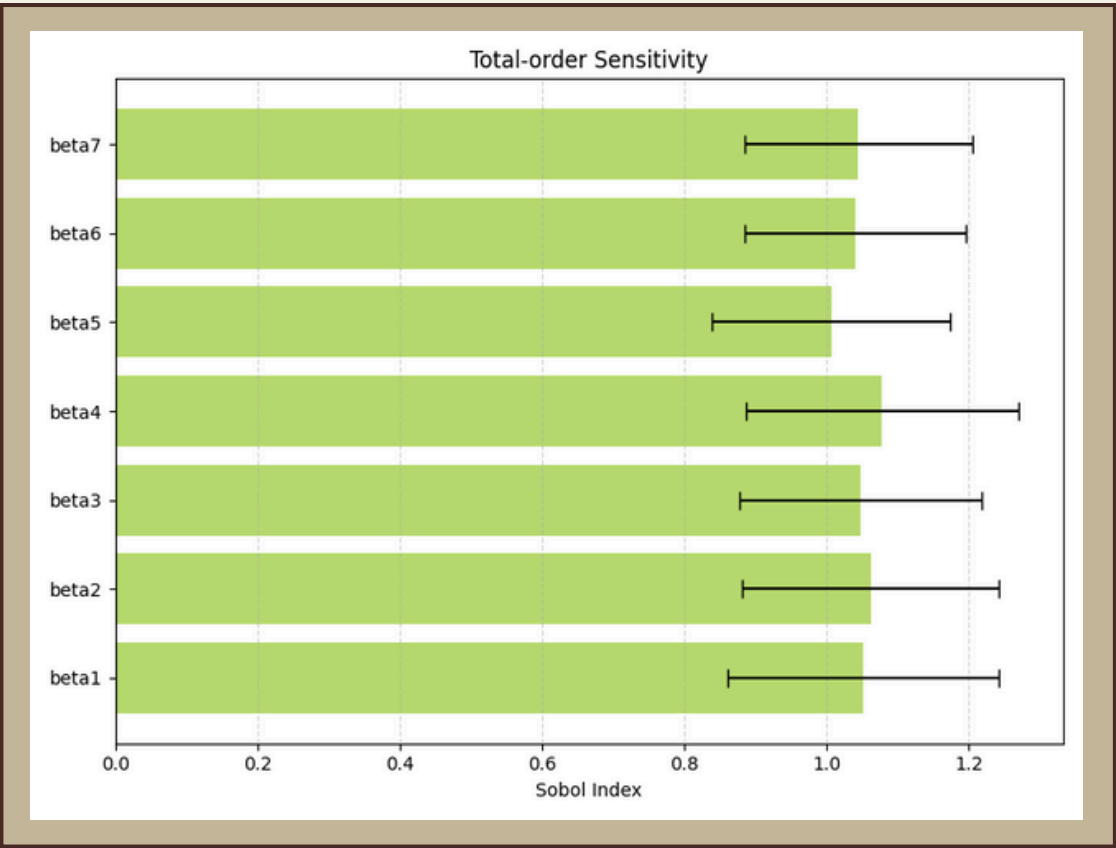
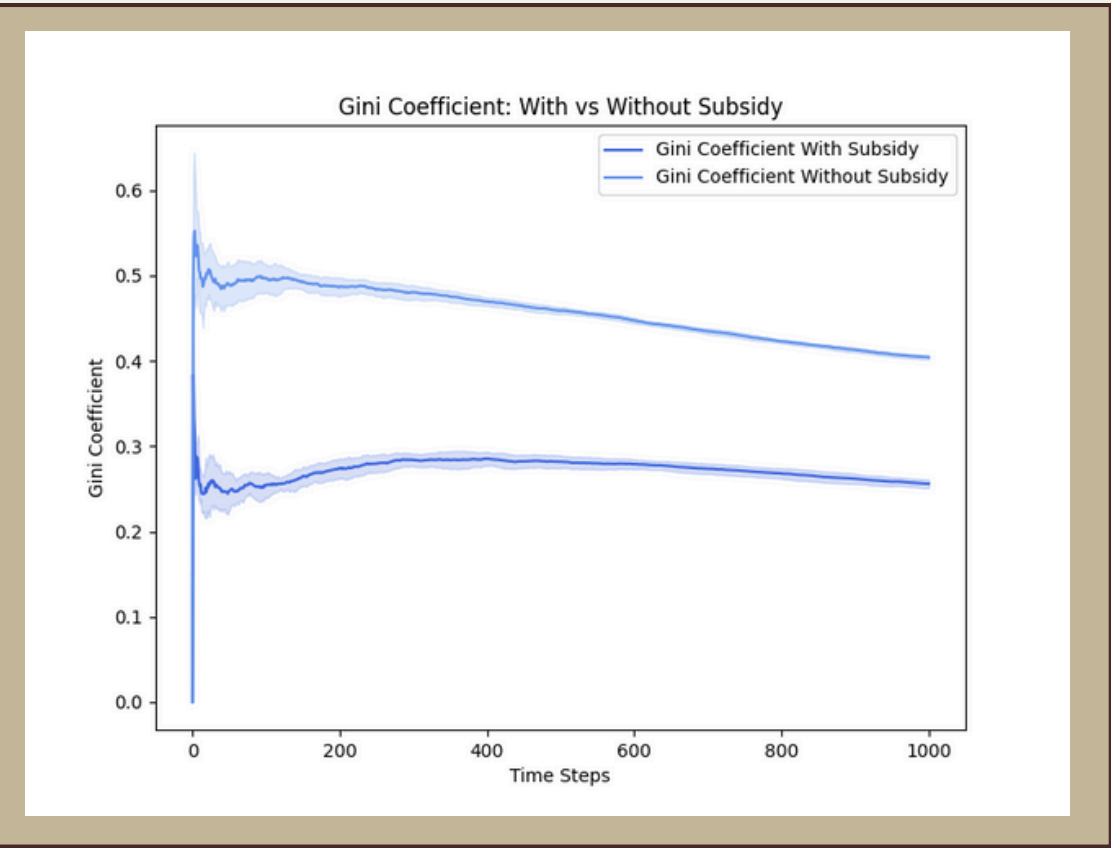
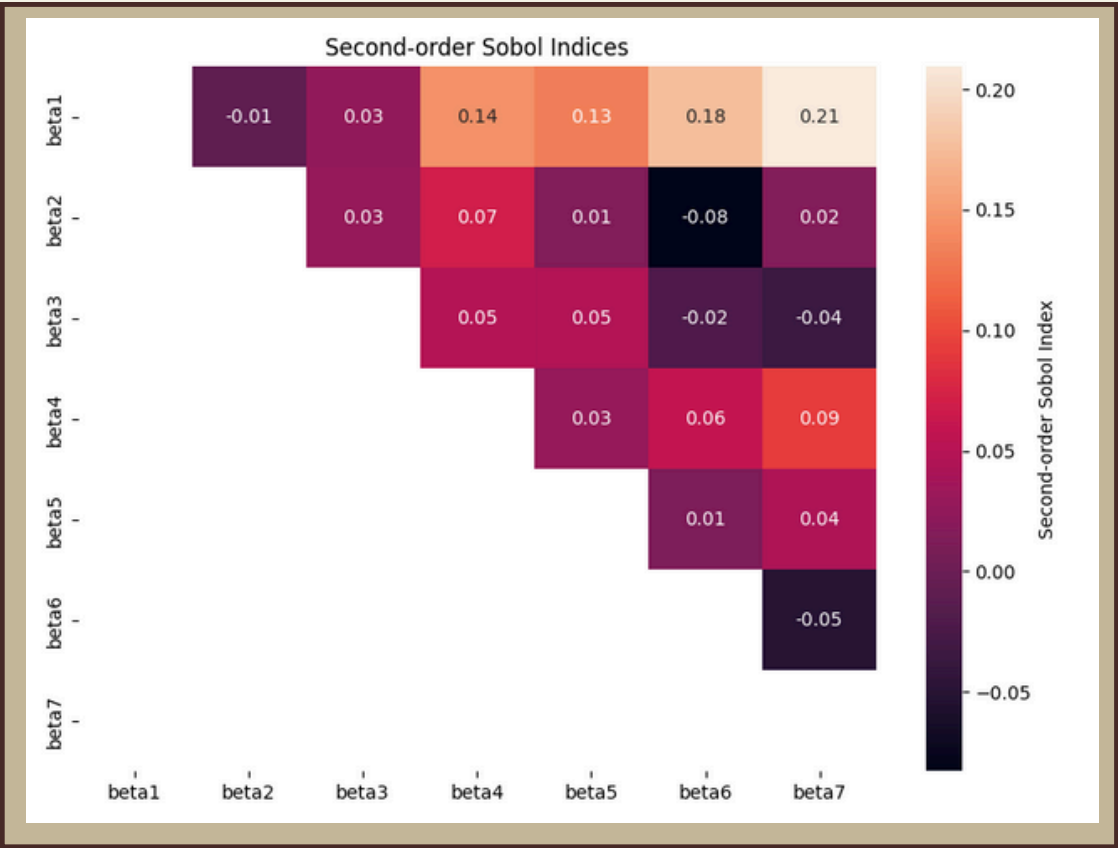
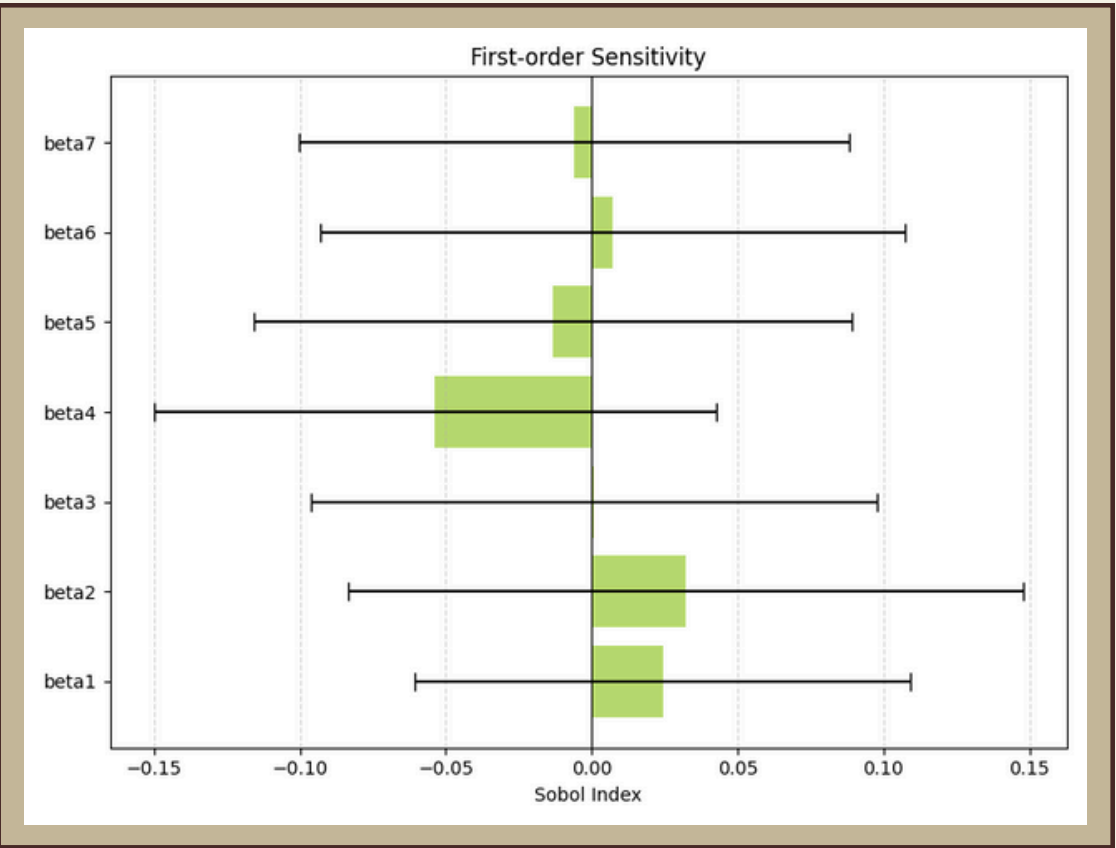
Agent's decision process:



Emergent Properties



Global Sensitivity Analysis



Conclusions

What is the effect of a government subsidy

- Emergence: clustering
- Lower Gini Coefficient → less inequality in renewable energy adoption
- Higher global rate of adoption
- Small changes in the model's parameters lead to very distinct outcomes (almost no adoption/ instant adoption)