What next?

1) The Reduction of Consumption

2) Inequality, Social Responsibility and Directed Innovation

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Content

Idea 1:
Reducing Consumption Levels

The environmental costs of inequality

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Reducing Consumption Levels

Motivation

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$\Rightarrow$ **this project focuses on a reduction of consumption**

This Paper

Research Question

What are the effects of a reduction in consumption?

Model

- **demand-determined production level** allowing for excess supply of labour (building on models of economic slack/ disequilibria, such as Auerbach et al. (2021))
- sectors differ with respect to the degree of resource usage
- **Inequality**: Households differ with respect to
  - the sector where they are employed
  - the composition and environmental cost of their consumption bundle due to basic needs
  - capital which is only held by some households
- effect on directed innovations

How to model the reduction of consumption?

- change in household preferences; intrinsic motivation
- government policy
  - reduction of working time as suggested by Gough
  - establish easy ways to share durable consumption
  - economic-ecological education (long-run policy)
  - tax on consumption beyond needs or high-emission consumption
- empirically study/ draw from literature studying relation of ecological cost of consumption bundles and household characteristics/ events

$\Rightarrow$ framework to (1) compare effects of different policies to reduce consumption as to limit global warming to 1.5 °C above pre-industrial levels, and (2) to study the political economy of consumption reduction $\Rightarrow$ implementability and societal acceptance

Why do we need to study a reduction of consumption in a quantitative model?

- ambiguous effect on climate externality: reduction of demand for high-emission goods $\Rightarrow$ high-emission sectors lay off workers $\Rightarrow$ increase in inequality if low-income households work primarily in these sectors $\Rightarrow$ with motivation to meet basic needs those households revert to consume more

Empirical analysis

- measure resource consumption by household
- What household characteristic/ events determine consumption levels?

$\Rightarrow$ Informs model on how a reduction of consumption can be implemented

- introduce reduction necessary to meet 1.5° warming goal
- measure

Hypotheses

-
- with basic needs questionable if reduction in consumption by one type implies reduction in resource usage

The environmental costs of inequality

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- a rising willingness to spend for green products implies a *recomposition* of consumption towards less resource-intense goods
- **but: subjective basic needs are high, preventing a demand-driven transition to green production**

Motivation

- due to climate change, we need to reduce the consumption of resources
- a rising willingness to spend for green products implies a *recomposition* of consumption towards less resource-intense goods
- but: **subjective basic needs** are high, preventing a demand-driven transition to green production

⇒ **How important are subjective basic needs in hampering a transition? What are the economic consequences of a reduction of subjective basic needs?**

Motivation

Make model in first project a quantitative model:
(1) heterogenous agents to capture distribution of income more accurately; (2) estimate social responsibility by household and **subjective** basic needs $\Rightarrow$ households do not want to reduce the level of consumption beyond what they perceive as needed (will be a function of income); (3) introduce carbon cycle to account for dynamics in externality; (4) directed innovation $\Rightarrow$ interaction with demand!

Research Question

How important an obstacle are subjective basic needs and inequality for a transition to sustainable production?

$\Rightarrow$ empirical research has shown that income determines the level of resource consumption; Empirical work on how income inequality and C02 emissions relate and why; But, income inequality is also a factor that impacts a transition to sustainable production: subjective basic needs are a positive function of income $\Rightarrow$ social

References

Auerbach, A. J., Gorodnichenko, Y., and Murphy, D. (2021). Inequality, fiscal policy and COVID19 restrictions in a demand-determined economy. *European Economic Review*, 137.

Gough, I. CAN GROWTH BE GREEN? Technical report.