

# Covid-19 and Wealth Inequality in the UK: Evidence from a DSGE Simulation

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# Contents

- Proposal

# Contents

- Proposal
- Motivation

# Contents

- Proposal
- Motivation
- Model

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- Proposal
- Motivation
- Model
- Literature

# Proposal

## Research Question

To what extent did Covid-19 affect wealth inequality in the UK?

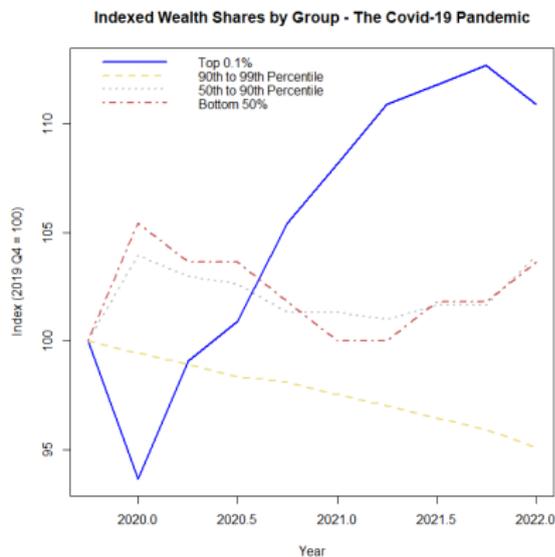
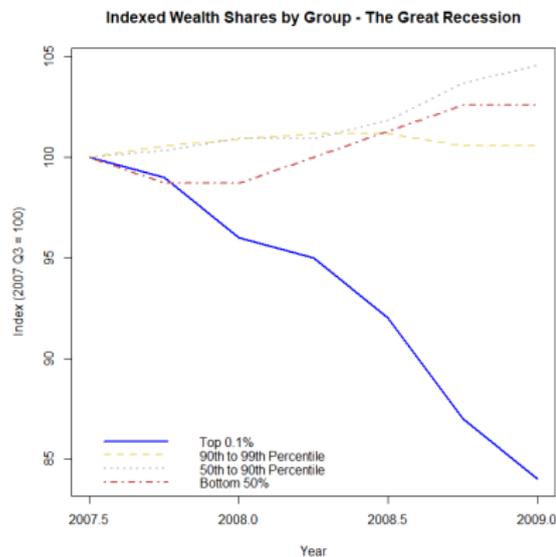
# Proposal

## Research Question

To what extent did Covid-19 affect wealth inequality in the UK?

The research is **theoretical** due to a lack of high quality wealth inequality data.

# Motivation - The Data



**Figure:** Wealth Share Dynamics Comparisons (FRED, 2025)

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- associated with political capture (Yanfeng and Zhongyuan, 2021)

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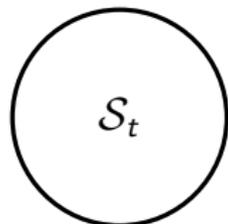
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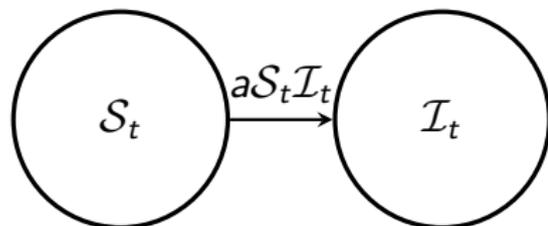
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- Something else?
  - Graph suggests that resources may have transferred between households

# Model - Epidemiological Block

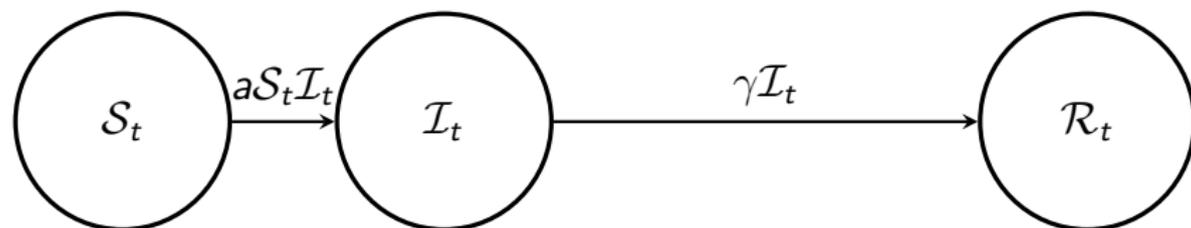
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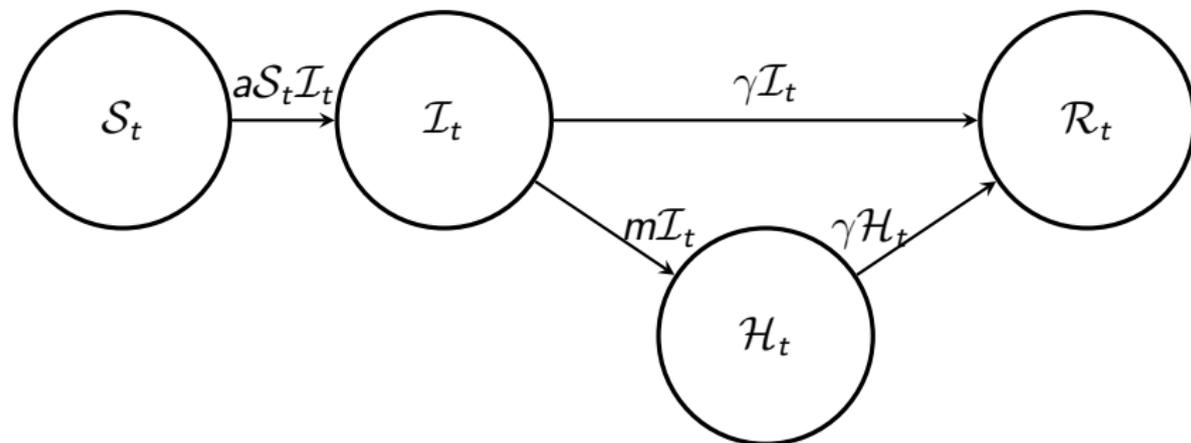
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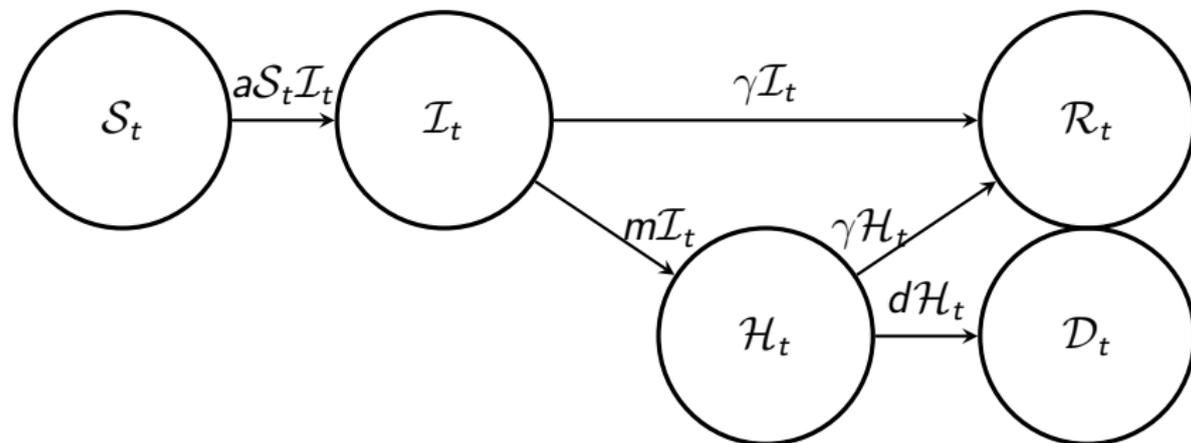
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and a mortality stock of households  $\mathcal{D}_t$

# Model - Macroeconomic Block

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For Non-Hospitalised Households:

$$V^{-\mathcal{H},\theta}(K_t^\theta, \Pi_t^\theta) = \max_{\{c_t^{-\mathcal{H},\theta}, h_t^\theta, K_{t+1}^\theta\}_{t=0}^{\infty}} u(c_t^{-\mathcal{H},\theta}) + \psi v(\mu - h_t^\theta) + \beta \mathbb{E}_t [(1 - m\mathcal{I}_t)V^{-\mathcal{H}}(K_{t+1}^\theta) + m\mathcal{I}_t V^{\mathcal{H}}(K_{t+1}^\theta)]$$

$$\text{s.t. } c_t^{-\mathcal{H},\theta} + K_{t+1}^\theta = (1 + r_t - \delta)K_t^\theta + w_t h_t^\theta + \Pi_t^\theta$$

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- $u'(c_t^{\mathcal{H},\theta}) = \beta(1 + r_{t+1} - \delta) \mathbb{E}_t [\gamma \mathcal{H}_t u'(c_{t+1}^{-\mathcal{H},\theta}) + (1 - \gamma \mathcal{H}_t - d\mathcal{H}_t) u'(c_{t+1}^{\mathcal{H},\theta})]$
- $K_{t+1}^\theta - (1 - \delta)K_t^\theta = r_t K_t^\theta + w_t h_t^\theta + \Pi_t^\theta - c_t^{\mathcal{H},\theta} - c_t^{-\mathcal{H},\theta}$

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$$\log(IS_t) = \rho^{IS} \log(IS_{t-1}) + \epsilon_t^{IS}$$

$$S_t = S_{t-1} - aS_t I_t - \log(IS_t)$$

$$I_t = I_{t-1} + aS_t I_t + \log(IS_t)$$

# Literature - Epidemiological Macro

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Rampini (2020)

Heterogeneity matters for pandemic dynamics.

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Heterogeneity matters for pandemic dynamics.

Barioliya and Imrohoroglu (2023)

Targetting lockdowns can reduce the economic damage of a pandemic.

# Literature - Business Cycles and Wealth Inequality

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Maliar et al. (2005)

Wealth inequality is counter-cyclical.

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Maliar et al. (2005)

Wealth inequality is counter-cyclical.

Clemens et al. (2021)

Wealth inequality dynamics depend on the IES - generally pro-cyclical.

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