

# GROWINPRO

Growth Welfare Innovation Productivity

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The socio-economic consequences of the COVID-19 pandemic  
GROWINPRO, Modelling, empirics and policy designs



# Research questions and objectives

## Research questions

- ▶ **Herbert**: What is the trade-off between virus casualties and economic activity (GDP loss)?
- ▶ **Damian**: What is the role of contagion dynamics in the spread of the virus?

## Common policy objectives

- ▶ What is the optimal design (length and relaxation intensity) of lockdown policies?

# Value added of ABMs and interdisciplinarity

## ABMs

- ▶ Heterogeneity across agents (level of infection, location, activities, age group...), not deterministic dynamics
- ▶ Interaction dynamics
- ▶ Flexible policy schemes
- ▶ Multiscale dynamics

## Interdisciplinarity

- ▶ complementarity in diffusion mechanisms (infection stages and factors; behavioral, consumption and production patterns)
- ▶ complementarity in policy targets (health vs. economic activity)
- ▶ common policy tools (lockdown)

## Possible extensions

- ▶ Endogenize the role of the health sector (capacity, reactivity...) ([Herbert](#))
- ▶ Role of network characteristics and spatialisation patterns ([Damian](#))
- ▶ Asymmetric effects of the pandemic and policies across agents, exploiting their heterogeneity (income: [Damian](#); skills and sector: [Herbert](#))

# Discussion

## Questions

- ▶ Both models focus on two dimensions of the lock down: timing and intensity.
  1. Why don't we see a self-defeating effect of a weak lock-down?  
([Herbert](#))
  2. What are the conditions that are necessary to reduce the probability of a subsequent wave, or reduce its intensity?  
([Damian](#))
  
- ▶ Which early warning indicators can be used to get the timing of lockdowns right?
  
- ▶ Now that several vaccines are available, what would be the best approach to vaccinate efficiently?

