

# New maps of economic insecurity

Matteo Richiardi <sup>a</sup>  
Patryk Bronka <sup>a</sup>  
Zhechun He <sup>a</sup>

<sup>a</sup>CeMPA, ISER, University of Essex

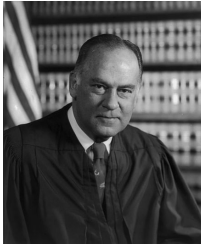
28 June 2021



## Economic insecurity: “I know it when I see it”

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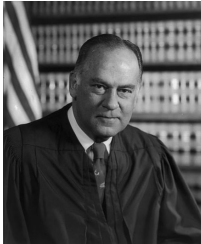
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Although there is not yet consensus on the definition, many would agree in identifying economic insecurity as the risk of not having resources to support an adequate standard of living now and in the foreseeable future (Berton et al. 2012).

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⇒ A lifecourse perspective as the right analytical approach

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Our solution: Extend survey data forward by means of [microsimulation](#)

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- What do the **“recovery curves”** from negative shocks, including Covid-19, look like for different individual characteristics and different regions?



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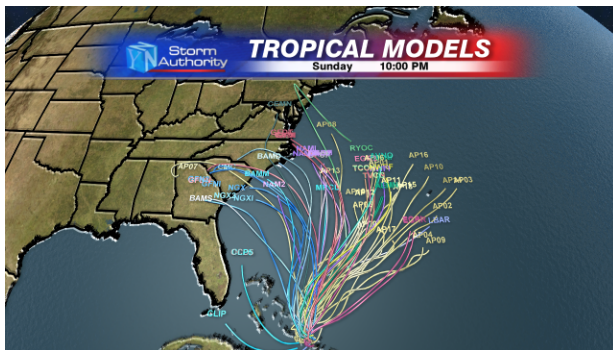
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- What can we learn in terms of **policy (re-)design** and optimization after the pandemic, also taking into account the need for **fiscal consolidation**?



## Considering hypothetical life course trajectories



## A dynamic framework /1

Economic security as a *normative evaluation* of the expected stream of resources available to any individual over the course of his or her residual lifetime, appropriately discounted for family composition and time:

$$S_i = \frac{\int_t \int_z W(z) \delta^t f_{i,t}(z) p_{i,t} dz dt}{\int_t \delta^t p_{i,t} dt}$$

where

- $W(z)$  is the welfare associated to the resources available to individual  $i$  at time  $t$ , with  $W' > 0$  and  $W'' < 0$ ,
- $\delta$  is the discount factor,
- $f_{i,t}(z)$  is the density at which resources are available, and
- $p_{i,t}$  is the probability of being alive.

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- **Role of social protection:** market incomes are transformed into household disposable income by a tax-benefit calculator

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(see Richiardi and He, 2020b)

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- ③ **Stochastic dominance.** If one distribution of resources at a future time  $t$  stochastically dominates another, it is associated to a higher level of security.
- ④ **Pigou-Dalton (transfer) principle.** Other things being equal (in particular, the probability of being alive), a transfer of resources in any possible future state of nature from a more secure to a less secure individual leads to an increase in the overall level of security in the population, as long as it does not leave the first individual less secure than the second.

## Further concepts

From security...

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... to resilience

$$S_i(X_0, m^*, P)$$

where  $m^*$  modifies the initial conditions as follows:

- $m1$  = job loss (if employed)
- $m2$  = financial loss of given entity
- $m3$  = partnership breakdown (if partnered)
- $m4$  = extra child
- $m5$  = deterioration of physical health
- $m6$  = deterioration of mental health
- $m7$  = acute condition (labour supply is impaired)
- ...

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$$S_i = \frac{1}{R} \sum_{r=1}^R \left( \frac{\sum_{t=0}^{T_r} c_{i,t,r}^{1/\alpha} \delta^t}{\sum_{t=0}^{T_r} \delta^t} \right)$$

where

- $c$  is equivalised real disposable household consumption,
- $\alpha > 1$  is a risk-aversion parameter,
- $R$  is the number of different runs of the model,
- $T_r$  is the residual lifetime of individual  $i$  in the  $r$  trajectory (which is itself simulated), and
- $\delta \in (0, 1]$  is the constant discount factor.

This is nothing else than a **weighted average of the welfare associated to future possible income/consumption streams**, with weights equal, in every period, to  $\delta^t$ .

## Three smoothing effects

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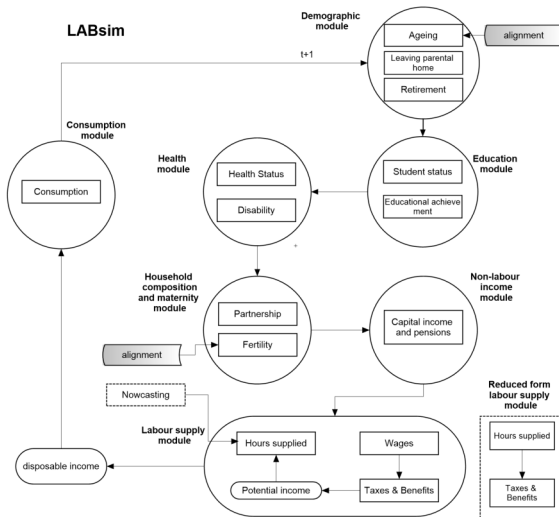
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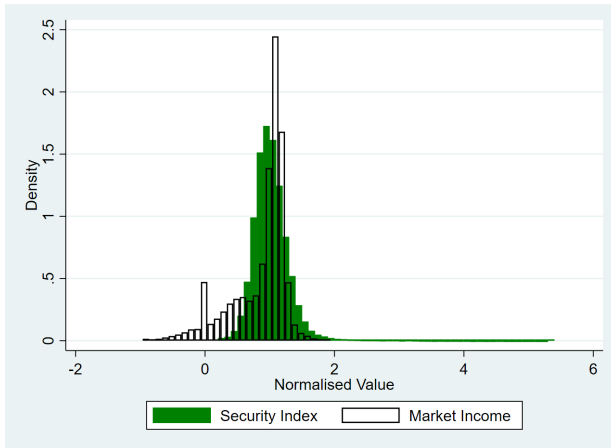
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- ③ Considering net incomes (post taxes & benefits)

# The LABsim modelling framework

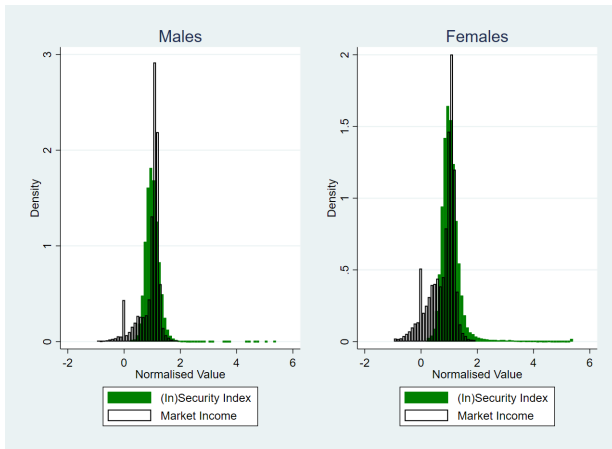


## Preliminary results (Italy)

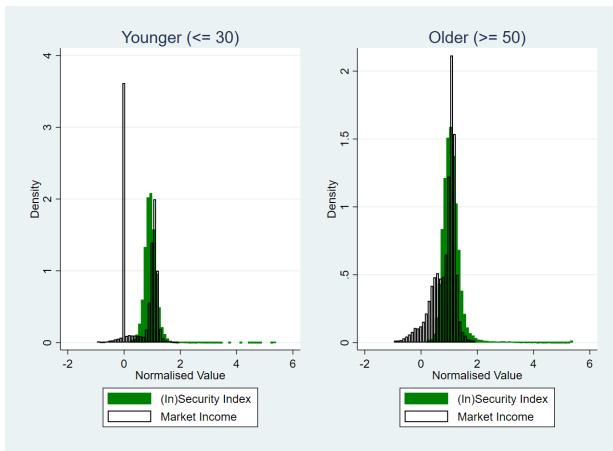
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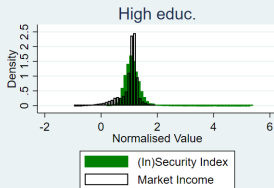
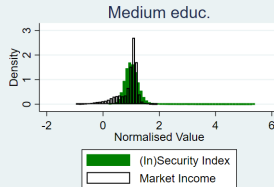
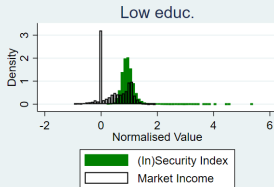
## By gender



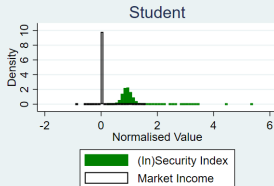
## By age



## By education



## By activity



Note: Not-employed includes retirees, and market income includes pensions and capital income.





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