The effectiveness of Minimum Income schemes in the EU

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Outline

- Background and motivation
- Methodology
- Results
  - Effectiveness of existing MI schemes
  - Reform scenarios
- Conclusions

Background and motivation

- **Minimum Income (MI) schemes are essential to alleviate poverty** and guarantee a minimum standard of living.

- The effectiveness of this support in reaching those in need is highly heterogeneous across countries (Frazer and Marlier, 2016, Figari et al., 2013, Nelson, 2013, Natili, 2020).

- In the last years, several EU countries have implemented reforms aiming at improving their schemes, however in **most of the Member States MI schemes seem insufficient** to effectively tackle poverty.

Background and motivation

- The European Commission prepared a **proposal for a Council Recommendation** on adequate MI schemes, which was adopted on the 28th of September:
  - The initiative aims at combating social exclusion by ensuring adequate MI schemes
  - Among the specific objectives of the initiative, improving the adequacy, coverage and take-up of MI schemes
- Our study supported DG-EMPL in preparing the empirical evidence accompanying the proposal.

Background and motivation

- Assessing the effectiveness of MI schemes is **challenging** because of **data limitations**.

- Studies on EU countries are based on **institutional data** (e.g. Nelson, 2010), **survey data** (e.g. Ayala & Bárcena-Martín, 2020) or **microsimulation modelling** (e.g. Figari et al., 2013)

- Survey microdata are typically subject to underreporting of social benefits (Lynn et al., 2004), whereas microsimulation models overestimate their magnitude (i.e. measuring “intended” policy effects)

- In principle, administrative data allows obtaining more precise estimations, though they are rarely available (in a comparable manner) across EU countries

Background and motivation

Survey vs microsimulation results -> (extreme) AROP rates deviate significantly

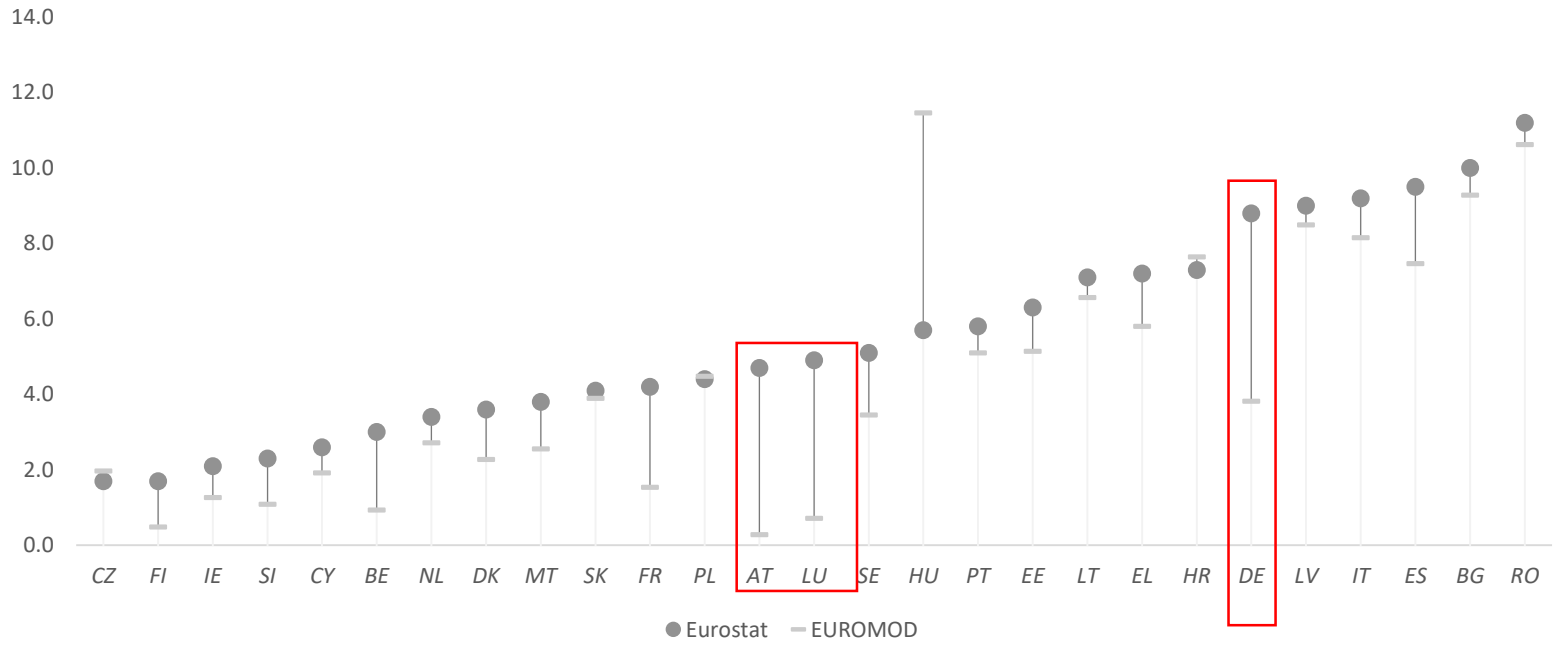

Figure 1. AROP rates (40% poverty line) according to Eurostat and EUROMOD

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Main research questions

1. How to obtain a **“closer to reality” simulation** of MI schemes through microsimulation modelling?

2. What is the **effectiveness** of MI schemes in terms of coverage, adequacy and poverty alleviation in all EU countries?

3. How much would it cost to **improve adequacy and coverage**?

Methodology: definition of MI schemes

- There is no a harmonized definition of MI schemes. We broadly consider:
  - Means-tested (both income and –sometimes- assets)
  - Non-contributory
  - Typically applicable to families not entitled to other benefits (i.e. last-resort safety nets) & meeting certain administrative criteria (e.g. age, residence)
  - Whose amounts are set as a top-up (not always) depending on the family size and composition

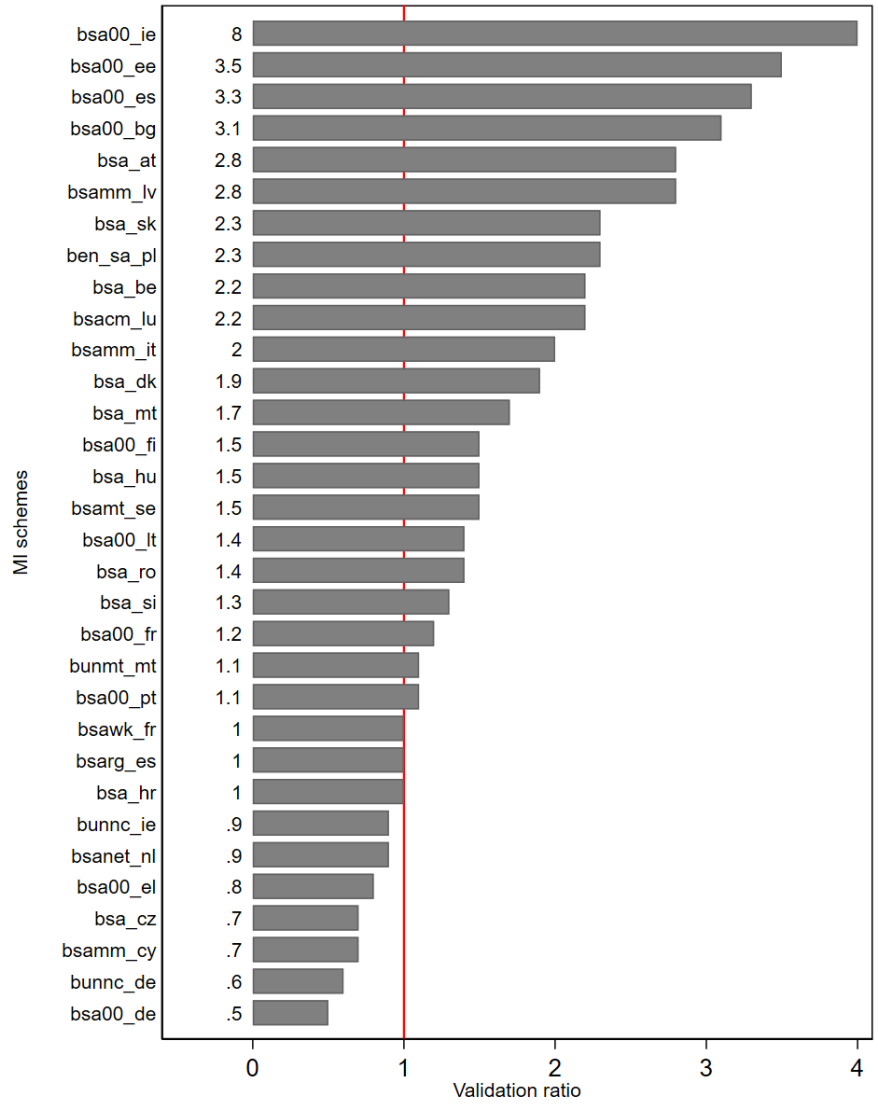
➢ In some countries we include more than one scheme, for example unemployment assistance (MT and DE).

Methodology: simulation of MI schemes

- We use EUROMOD, with data from EU-SILC 2019. We analyse the tax-benefit system of 2019.

- How accurately MI schemes are simulated depends on the availability of information in the underlying data (EU-SILC):
  - Income tests -> well simulated
  - Non-income eligibility conditions:
    - Sociodemographic criteria (e.g. age) -> well simulated
    - Asset-related conditions -> can only be roughly simulated
    - Others (e.g. time of residence, registration at PES, etc.) -> not simulated
  - Non-take-up -> full take-up is typically assumed

Methodology: Macrovalidation of MI schemes



- Ratio of EUROMOD **Total expenditure** to Official Statistics

- Country specific ad hoc adjustment of benefit take-up rate are excluded.

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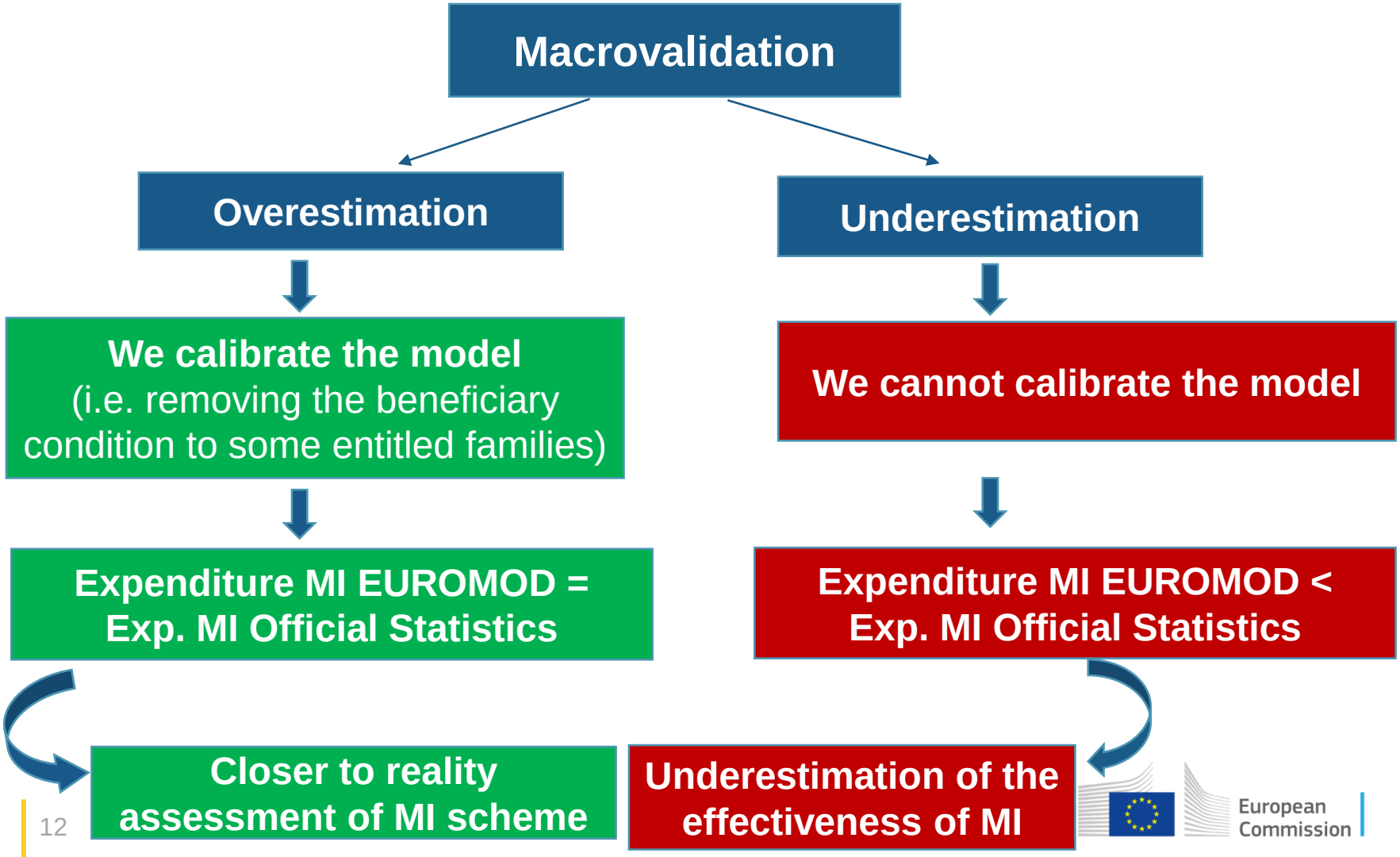
Methodology: Calibrating the model (1)



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Methodology: Calibrating the model (2)

- Following Hernandez et al. (2022), for each household i the **probability of being a MI beneficiary** is defined as:

$$P_i = w * RC_i + (1 - w) * DC_i$$

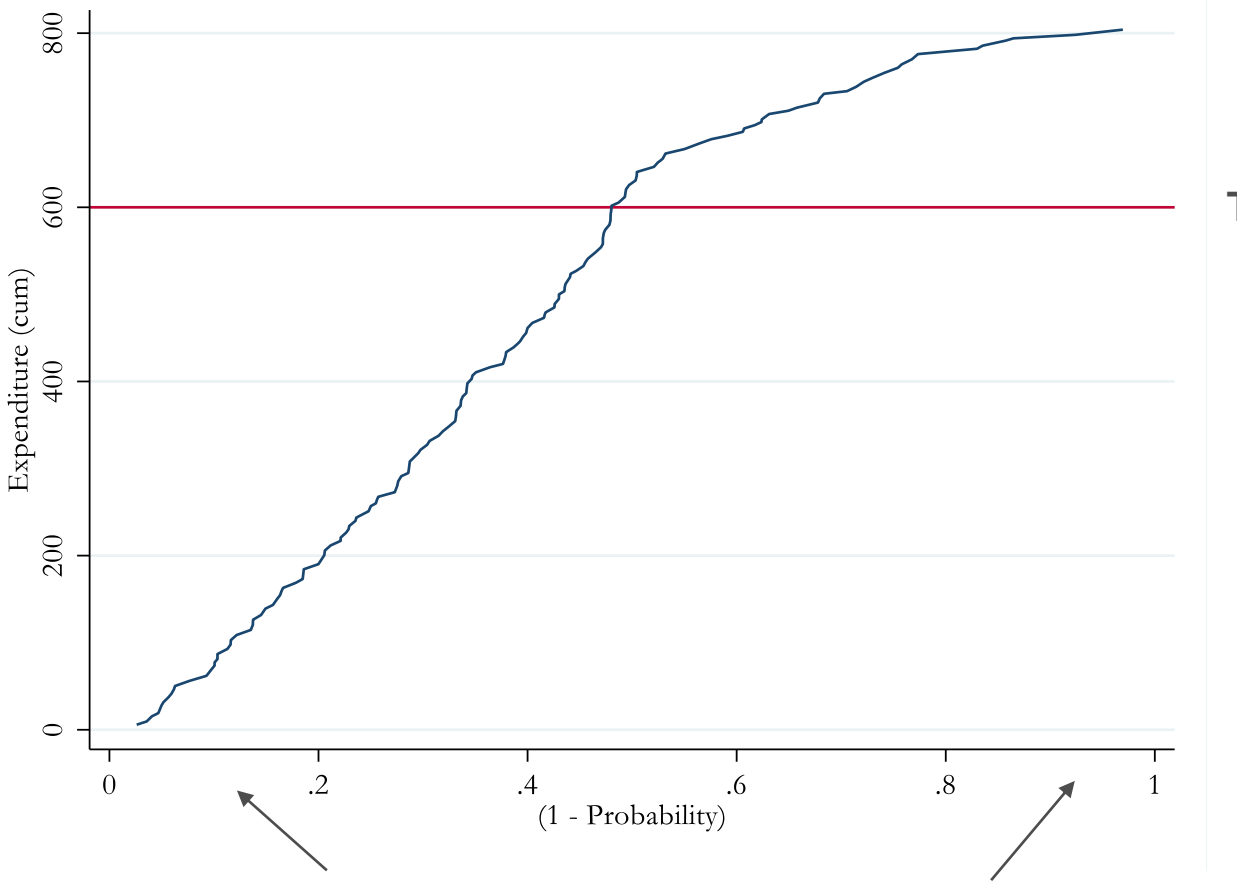
$RC_i \in [0,1]$ is a **random component** following an uniform distribution

$DC_i \in [0,1]$ is a **deterministic component** measuring the generosity of the entitlement - the more generous, the more likely to be selected as beneficiary (Hernanz et al., 2003)

$w \in [0,1]$ is the weight measuring the importance of each component in determining the probability:

- $w = 1$ -> full random assignment
- $w = 0$ -> full deterministic assignment
- we set $w = 0.5$

Methodology: Calibrating the model (3)



Total expenditure MI EUROMOD baseline
(e.g 800 million)
>
Total expenditure MI official statistics
(e.g 600 million)

higher probability of being a MI beneficiary

lower probability

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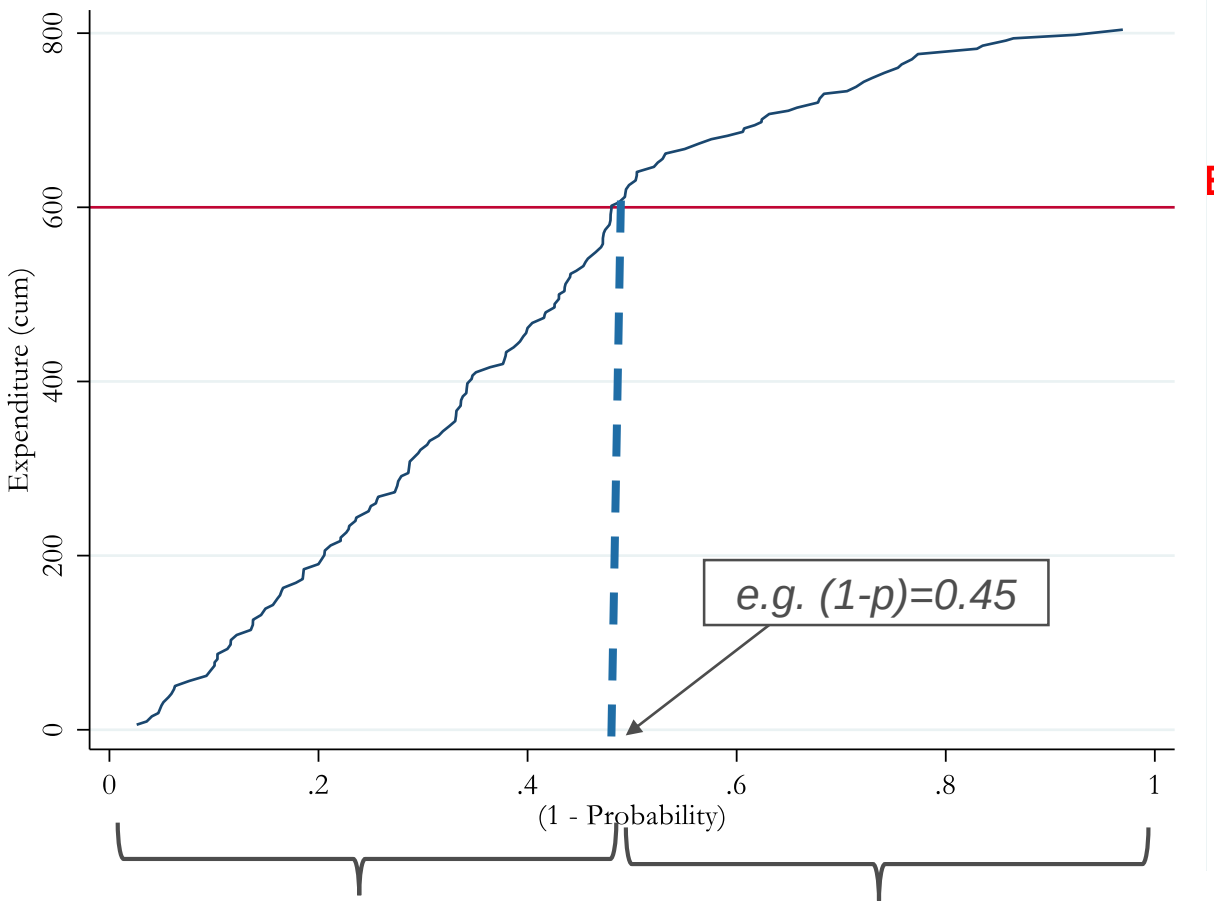
Methodology: Calibrating the model (3)



EUROMOD baseline MI exp (e.g 800 million)

EUROMOD calibrated MI exp = **official statistics** MI exp (e.g 600 million)

HH selected (e.g. (1-p)≤0.45) HH removed (e.g. (1-p)>0.45)

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Results

Two exercises:

1. **Assessing the effectiveness of existing MI schemes** (against a scenario where no MI schemes are in place)
2. **Exploring the effects of (theoretical) reforms**, through sequential changes to the levels of coverage and adequacy

Two benchmarks:

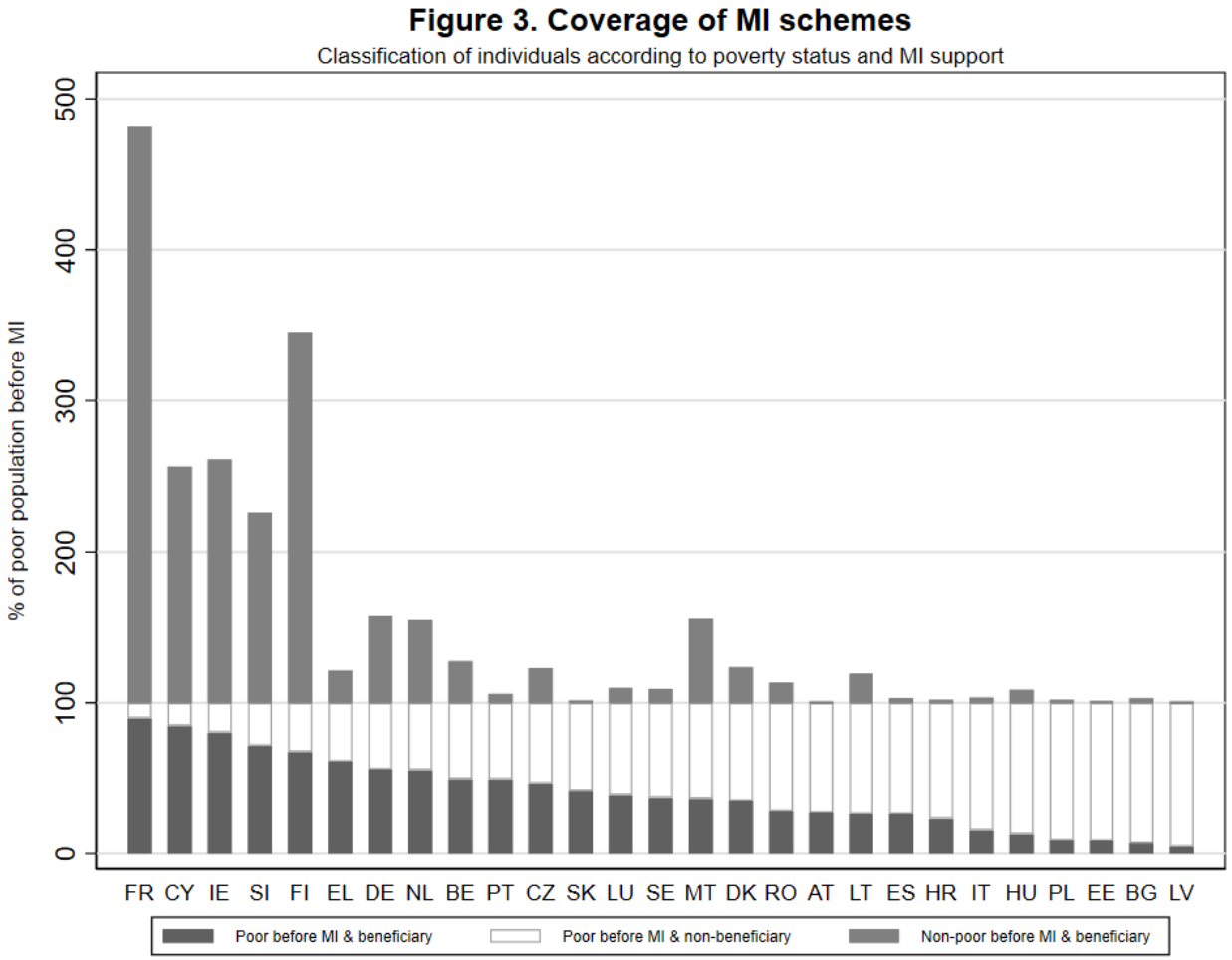
1. **Extreme poverty criterion** [40% of median eq.disp.income]
2. Standard poverty criterion [60% of median eq.disp.income] -> only in WP

A few limitations:

1. Pure “morning-after” effects, mainly focused on poverty-alleviation
2. Results are somewhat sensitive to our calibration procedure
3. Pre-covid analysis

1. Assessing the effectiveness of existing MI schemes

Results: coverage



- MI schemes depict a **heterogeneous coverage** across EU Member States, yet insufficient in most countries
- Only **8 countries with coverage rates above 50%**
- The targeting of MI schemes is imperfect in relation to the (monetary) poverty criteria used

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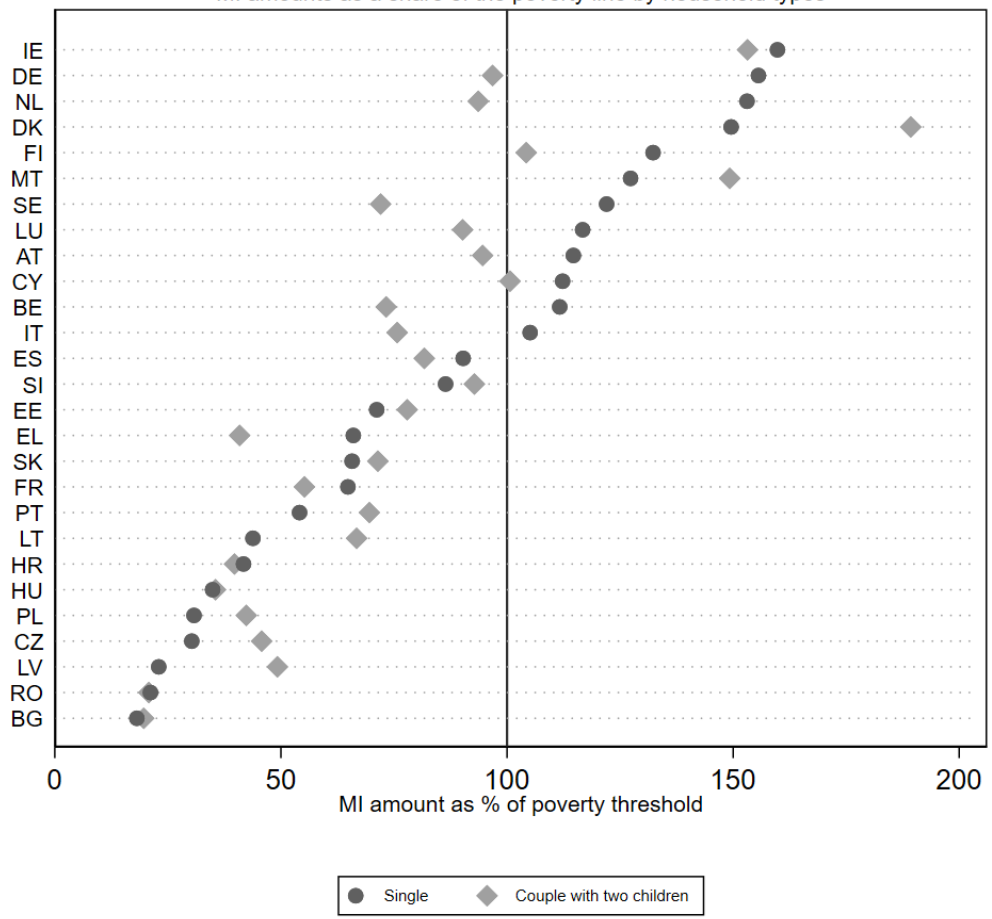
Results: adequacy

Figure 4. Adequacy of MI schemes

MI amounts as a share of the poverty line by household types



- **MI levels are not adequate in half of EU countries** (as expected, results worsen for the 60% poverty threshold)
- With some exceptions, **a couple with two children generally receives a less adequate benefit than a single adult**

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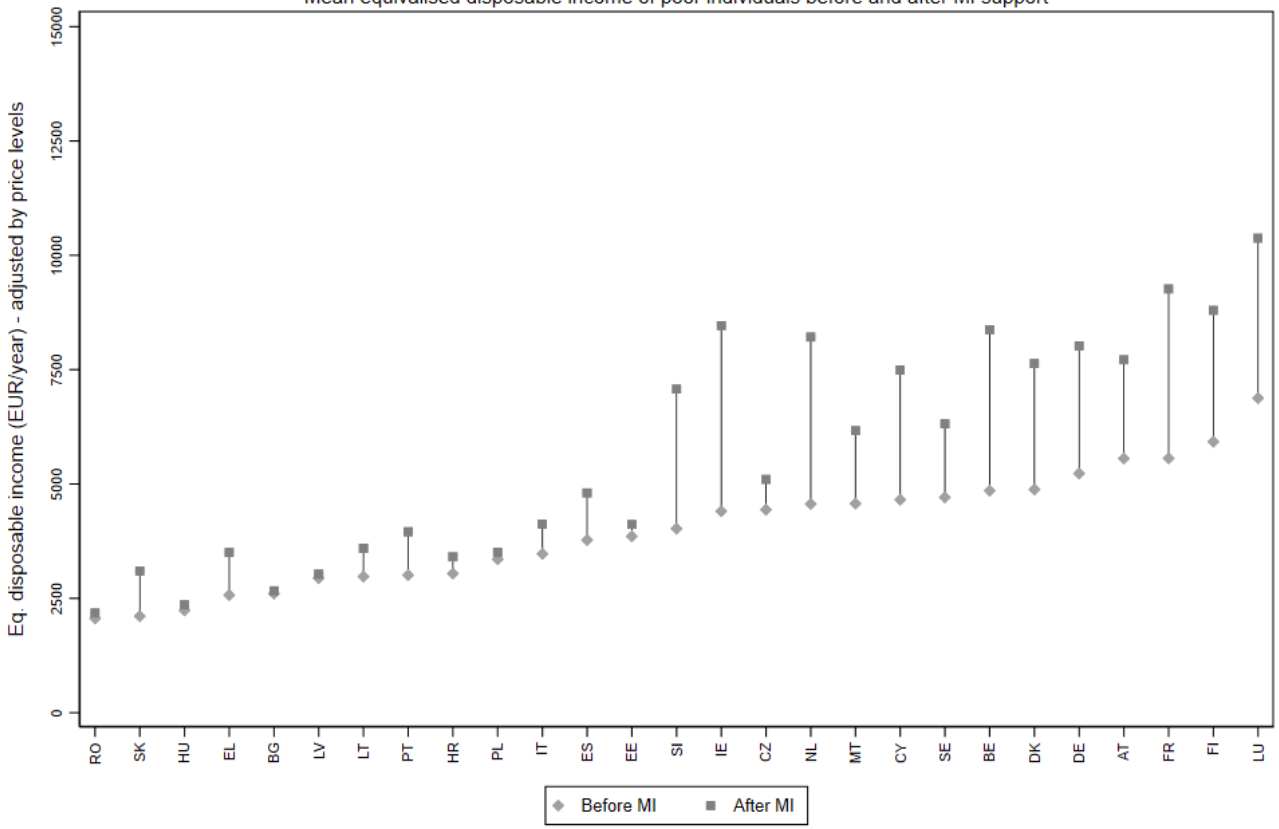
Results: poverty alleviation

Figure 5. Poverty-alleviation effects of MI schemes

Mean equivalised disposable income of poor individuals before and after MI support



- **The best-performing countries before MI** support **are also those where disposable incomes increase most thanks to existing MI** support

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2. Exploring the effects of (theoretical) reforms to MI schemes

Reform scenarios: description (I)

- Simulation of a **new hypothetical complementary MI scheme**
  - Eligibility only made on a purely monetary basis, no additional criteria being considered
  - The unit of assessment is the household
  - The scheme operates after the simulation of all taxes and benefits, including each existing country-specific MI
  - The benefit level is calculated as the difference between households' equivalised disposable income and each country-specific (extreme) poverty line

Reform scenarios: description (II)

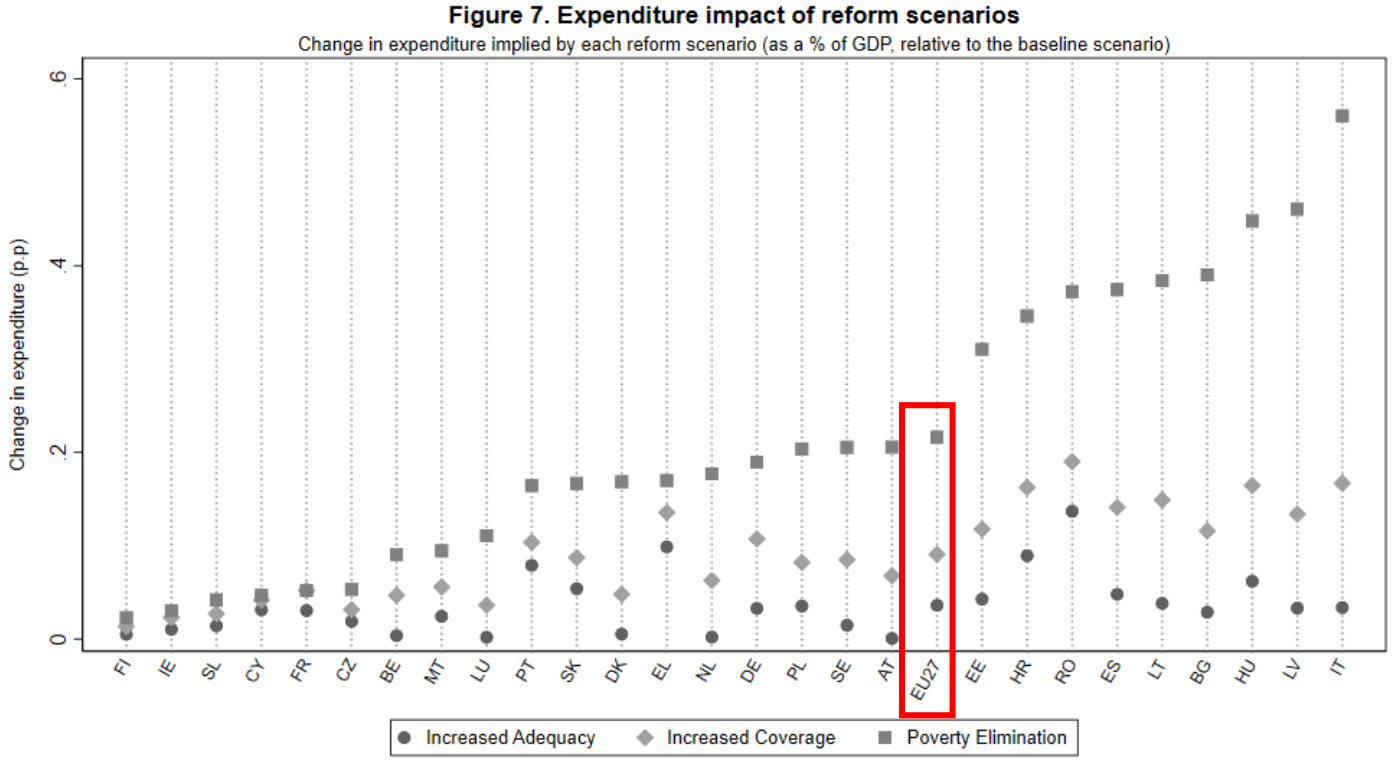
- Once the new scheme is simulated, we restrict its accessibility to three different populations of interest in a stepwise approach:

    1. **Increased adequacy** to the (40%) poverty line for current beneficiaries

    2. **Increased coverage** by 10 percentage points -> the scheme is assigned to some new beneficiaries not previously covered

    3. **Extreme poverty elimination** through increased coverage and adequacy

Reform scenarios:
the budgetary cost of eradicating extreme poverty



Main takeaway: the additional cost of providing MI support to lift all households in the EU out of extreme poverty would be relatively low and far from being unattainable

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Conclusions

- Assessing the effectiveness of MI schemes in poverty alleviation faces data (e.g. underreporting) and modelling limitations (e.g. lack of data to perform accurate simulations).

- We apply a simple method to calibrate the simulation in EUROMOD of EU MI schemes in order to estimate a “closer to reality” impact.

- Our findings suggest that:

  - The coverage and adequacy of MI schemes is yet insufficient in most EU countries -> Role of MI schemes as automatic stabilizers (?)

  - The best-performing countries before MI support are also those where disposable incomes increase most thanks to existing MI support -> Convergence across EU countries (?)

  - There is scope for overcoming some of the gaps in current MI schemes through reforms affecting both the coverage and adequacy at a relatively low budgetary cost

    -> enhancing take-up, relaxing some eligibility criteria, increasing MI thresholds and/or adjusting implicit equivalence scales, etc.

- Future steps: dynamic approach (e.g. labour-supply and consumption effects) + in-kind benefits

Thank you!

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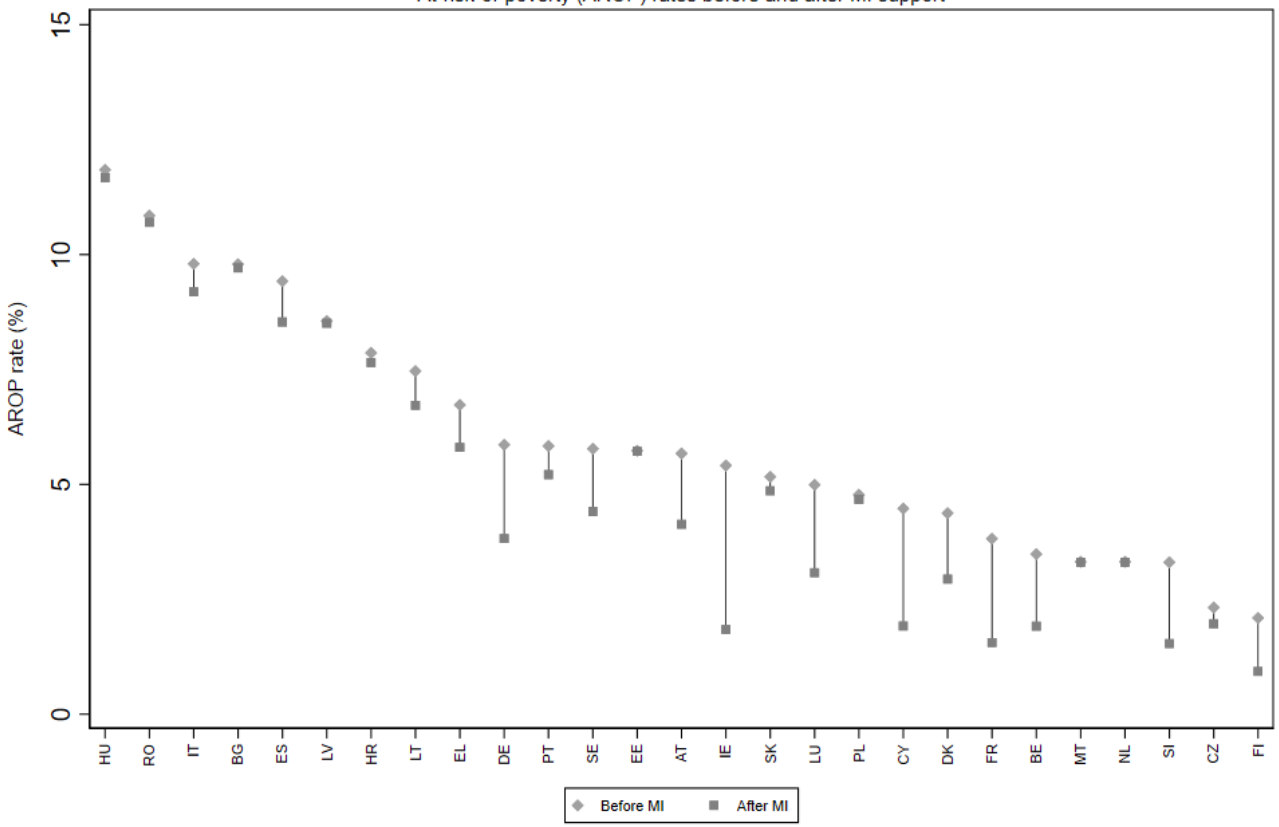
Additional results: poverty alleviation (II)

Figure 6. Poverty-alleviation effects of MI schemes

At-risk-of-poverty (AROP) rates before and after MI support



- **MI support in most EU countries is insufficient to lift beneficiaries out of extreme poverty**, with a few exceptions
- [The AROP rate is a sensitive indicator in assessing the effectiveness of a policy: sensitivity to the selected threshold, beneficiaries remaining right below the threshold, etc.]

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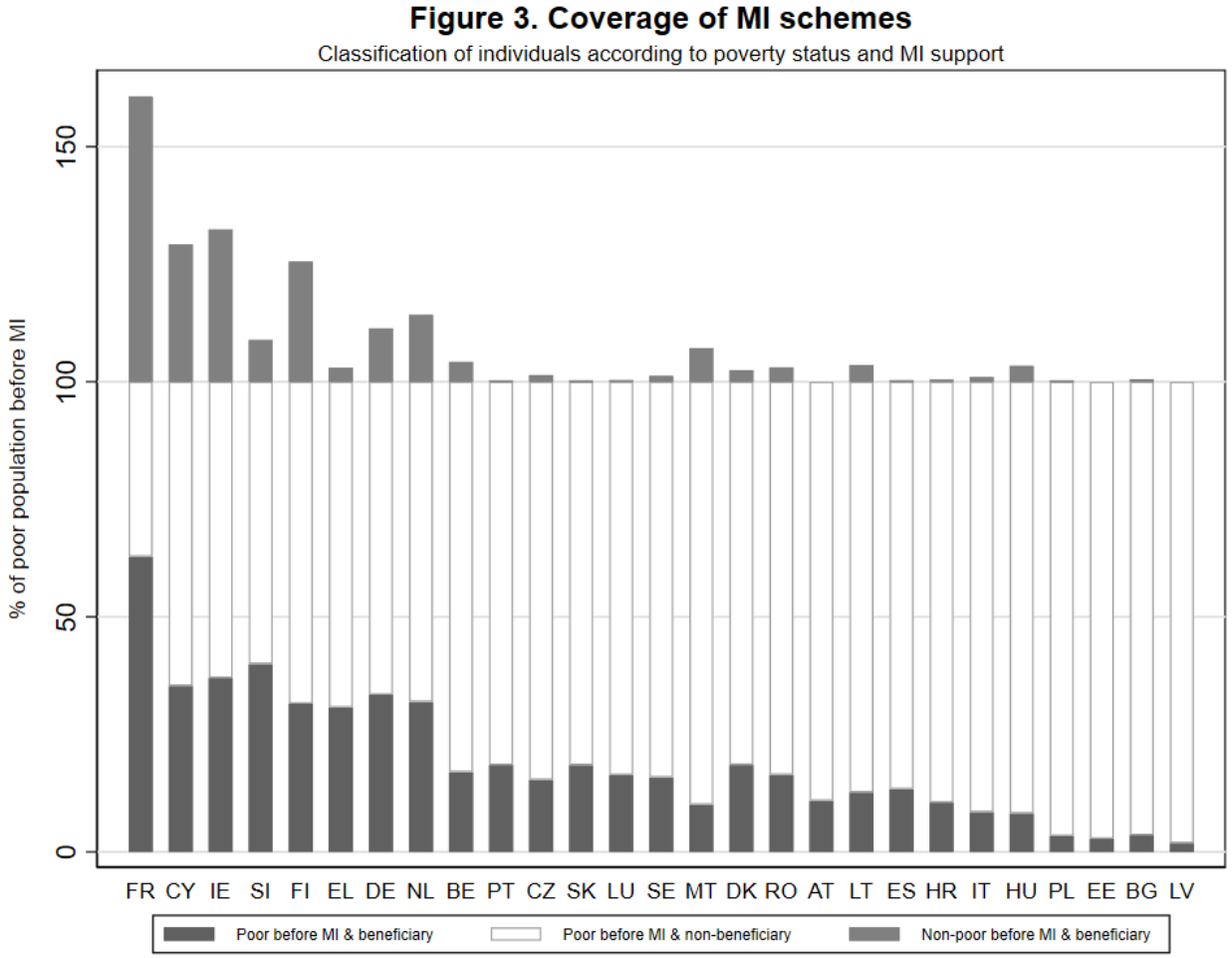
Additional results – 60% poverty threshold



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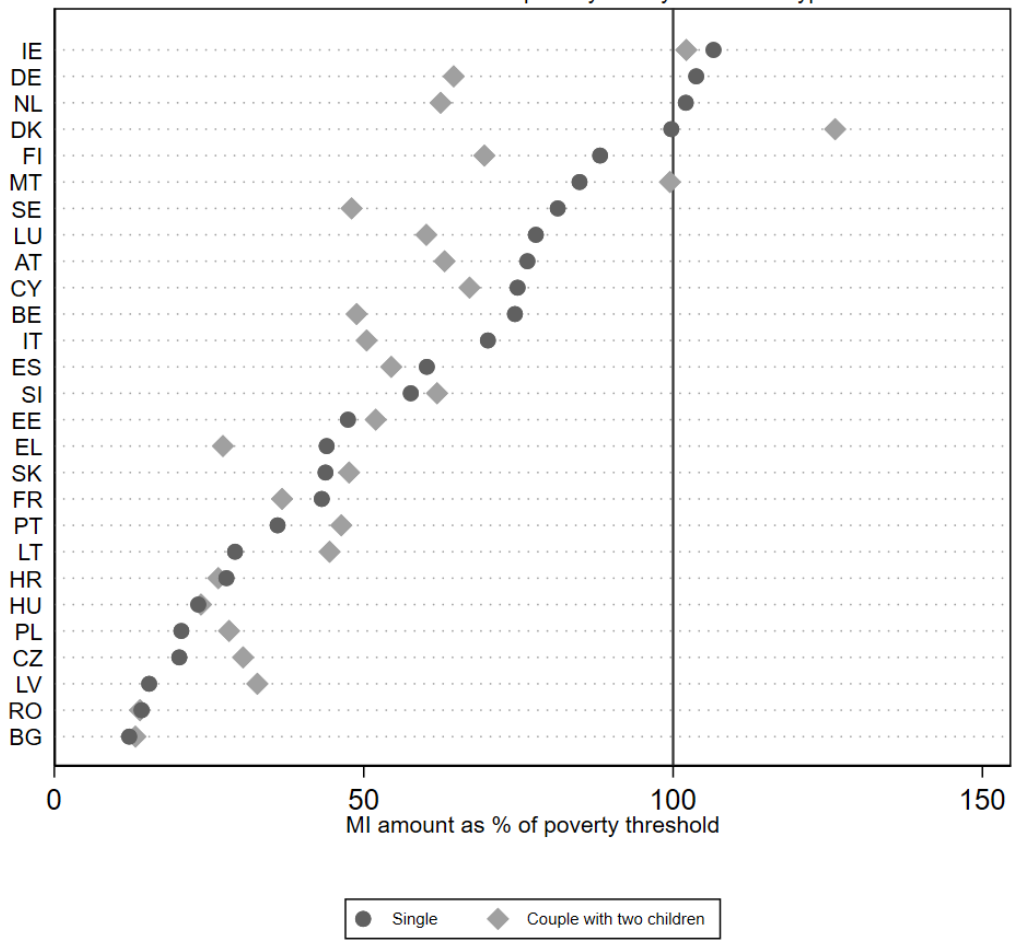

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Additional results – 60% poverty threshold

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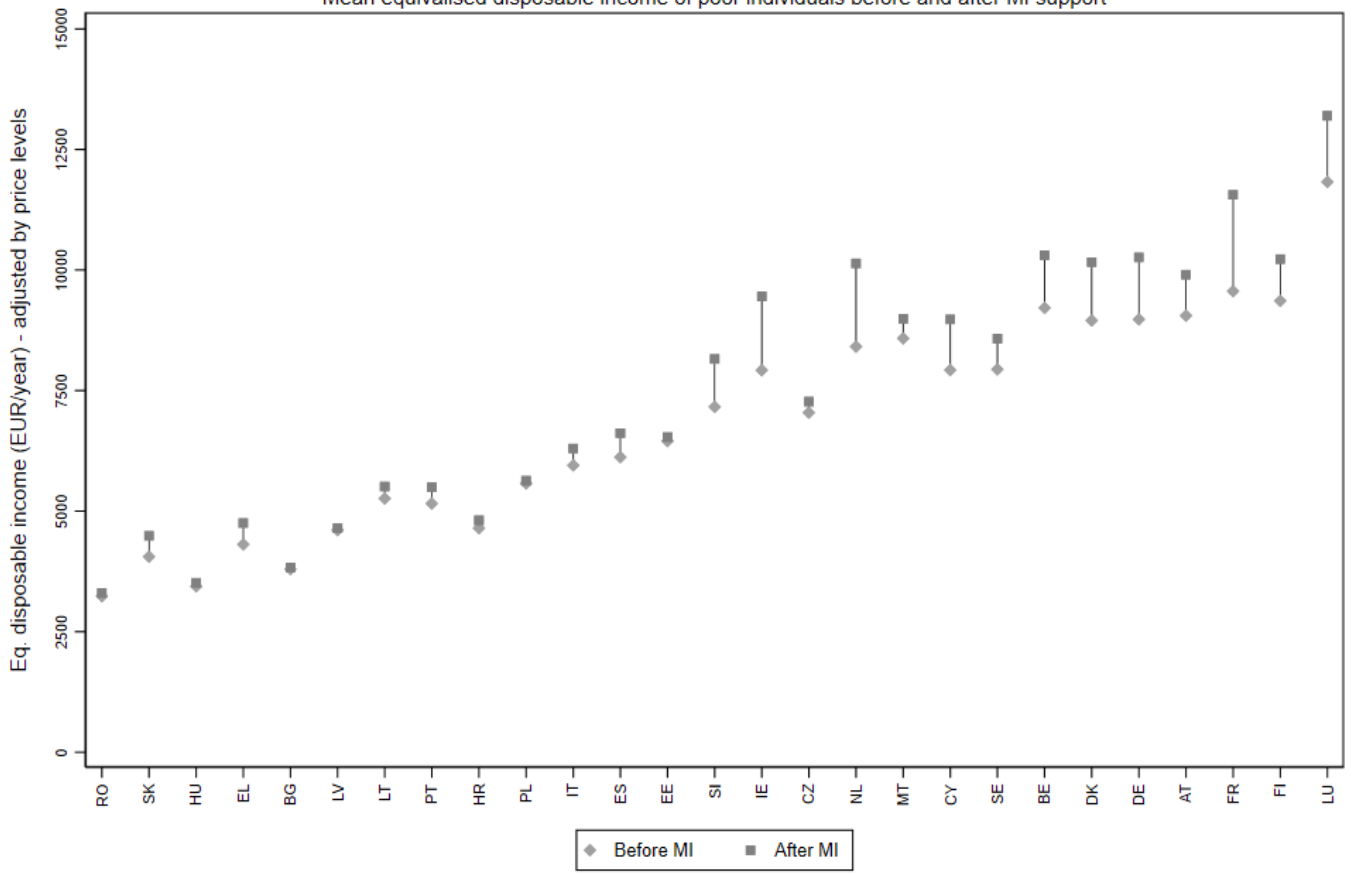

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Methodology: AROP with calibrated baseline

Survey vs microsimulation results: (extreme) AROP rates deviate significantly

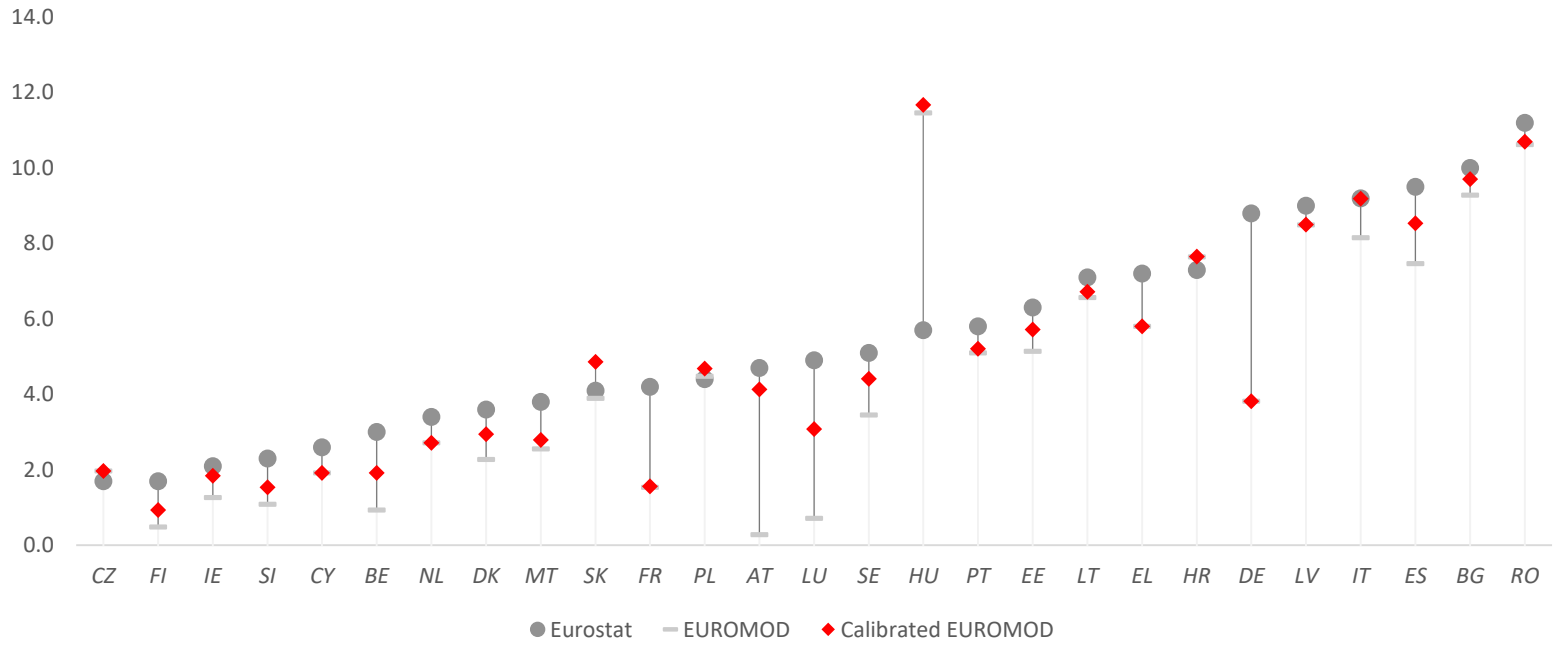

Figure 2. AROP rates (40% poverty line) according to Eurostat, EUROMOD and calibrated EUROMOD

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List of assessed MI schemes

Table 1. List of assessed MI schemes

Country	EUROMOD policy	MI scheme
AT	bsa_at	Guaranteed minimum resources (Mindestsicherung)
BE	bsa_be	Integration income (revenu d'intégration/leefloon)
BG	bsa00_bg	Monthly social assistance allowances (Месечни социални помощи)
CY	bsamm_cy	Guaranteed Minimum Income (Ελάχιστο Εγγυημένο Εισόδημα)
CZ	bsa_cz	Allowance for Living (Příspěvek na živobytí)
DE	bsa00_de	Subsistence benefit (Hilfe zum Lebensunterhalt)
	bunnc_de	Unemployment assistance for jobseekers (Grundsicherung für Arbeitsuchende)
DK	bsa_dk	Social assistance (kontanthjælp)
EE	bsa00_ee	Subsistence benefit (toimetulekutoetus)
EL	bsa00_el	Guaranteed Minimum Income (ΕΛΑΧΙΣΤΟ ΕΓΓΥΗΜΕΝΟ ΕΙΣΟΔΗΜΑ)
ES	bsarg_es	Regional Minimum Income Schemes (Rentas Mínimas de Inserción)
	bsa00_es	Minimum Living Income (Ingreso Minimo Vital)
FI	bsa00_fi	Social assistance (toimeentulotuki)
FR	bsa00_fr	Active solidarity income (revenu de solidarité active, RSA)
	bsawk_fr	Employment bonus (Prime d'activité)
HR	bsa_hr	Guaranteed minimum benefit (Zajamčena minimalna naknada)
HU	bsa_hu	Benefit for persons in active age (aktív korúak ellátása)
IE	bsa00_ie	Supplementary Welfare Allowance
	bunnc_ie	Jobseeker's Allowance
IT	bsamm_it	Guaranteed Minimum Income (Reddito di Cittadinanza)
LT	bsa00_lt	Social benefit (socialinė pašalpa)
LU	bsacm_lu	Social inclusion income (revenu d'inclusion sociale, Revis)
LV	bsamm_lv	Guaranteed minimum income benefit (Pabalsts garantētā minimālā ienākuma līmeņa nodrošināšanai)
MT	bsa_mt	Social assistance (Ghajnuna Socjali)
	bunmt_mt	Unemployment Assistance (Għajnuna għal-Dżimpjieg)
NL	bsagross_nl	Participation Act (Participatiewet)
	bsanet_nl	
PL	ben_sa_pl	Periodic Allowance (Zasiłek okresowy)
PT	bsa00_pt	Social minimum income (Rendimento social de inserção)
RO	bsa_ro	Social Aid (ajutor social)
SE	bsamt_se	Social assistance - livelihood support (Ekonomiskt bistånd)
SI	bsa_si	Financial Social Assistance (denarna socialna pomoč)
SK	bsa_sk	Material Need Assistance (Pomoc v hmotnej núdzi)

The deterministic component

$$DC_i = \frac{MI_i}{GMI_i} = 1 - \frac{IT_i}{IT_i + MI_i}$$

where IT_i corresponds to the total income being subject to each MI scheme means testing, and MI_i is the minimum income benefit to which the household is entitled to.

the higher DC_i is, the more generous the entitlement is and the more likely the household is to be selected as an actual beneficiary.