

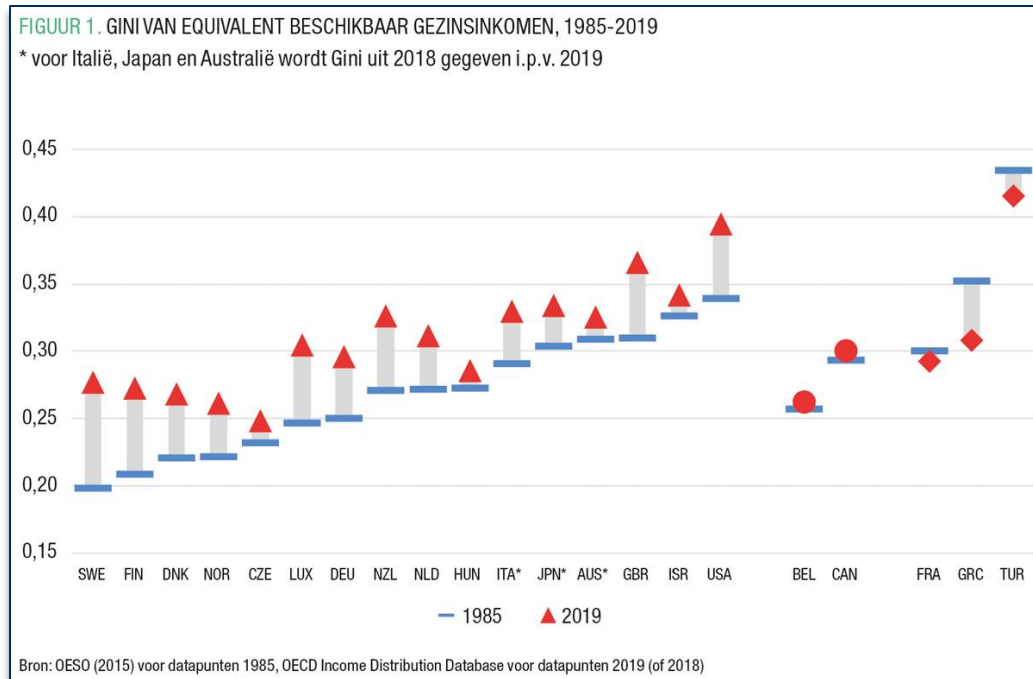
# The drivers of income inequality in Belgium, 1985-2021

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*Work in progress*

# Introduction

- **BE-PARADIS project: Belgian Paradox of Distribution** (<https://www.beparadis.be>)
  - Low and stable levels of income inequality
  - ↔ findings for many other OECD-countries
  - ↔ appreciation in public debate: press, public at large (Risks that Matter Survey, OECD, 2021)



PIKETTY'S VASTSTELLING GELDT OOK VOOR ONS LAND: ONGELIJKHEID STIJGT

## Topverdieners rukken zich los van de rest

08 SEPTEMBER 2014 OM 04:00 UUR | Van onze redacteurs Jan-Frederik Abbeloos, Dries De Smet

## België ontsnapt niet aan groeiende inkomensongelijkheid

08/09/2014 om 05:55 door Jan-Frederik Abeloos en Dries De Smet

## Inkomenskloof wordt steeds groter

# Introduction

- **Almost all evidence so far based on equivalised household disposable income (Assal et al. 2023)**
- **First step: could there be something happening beneath the surface?**
  - Analysis for more granular income concepts confirms low and stable levels of inequality
- **Second step: could several factors be counteracting each other?**
  - Assessing the impact of demographic changes, changes in the labour market and tax-benefit policy reforms by creating counterfactuals
  - For now focus on demographic changes

# Data and methods

# BE-PARADIS dataset

- **Ex-post harmonisation of three existing datasets:**

- Socio-Economic Panel (SEP): 1985, 1988, 1992, 1997
- European Community Household Panel (ECHP): 1994-2001
  - Based on Panel Study for Belgian Households (PSBH): 1992-2001
- Belgian Statistics on Income and Living Conditions (BE-SILC): 2004-2021

- ***Income years covered:***

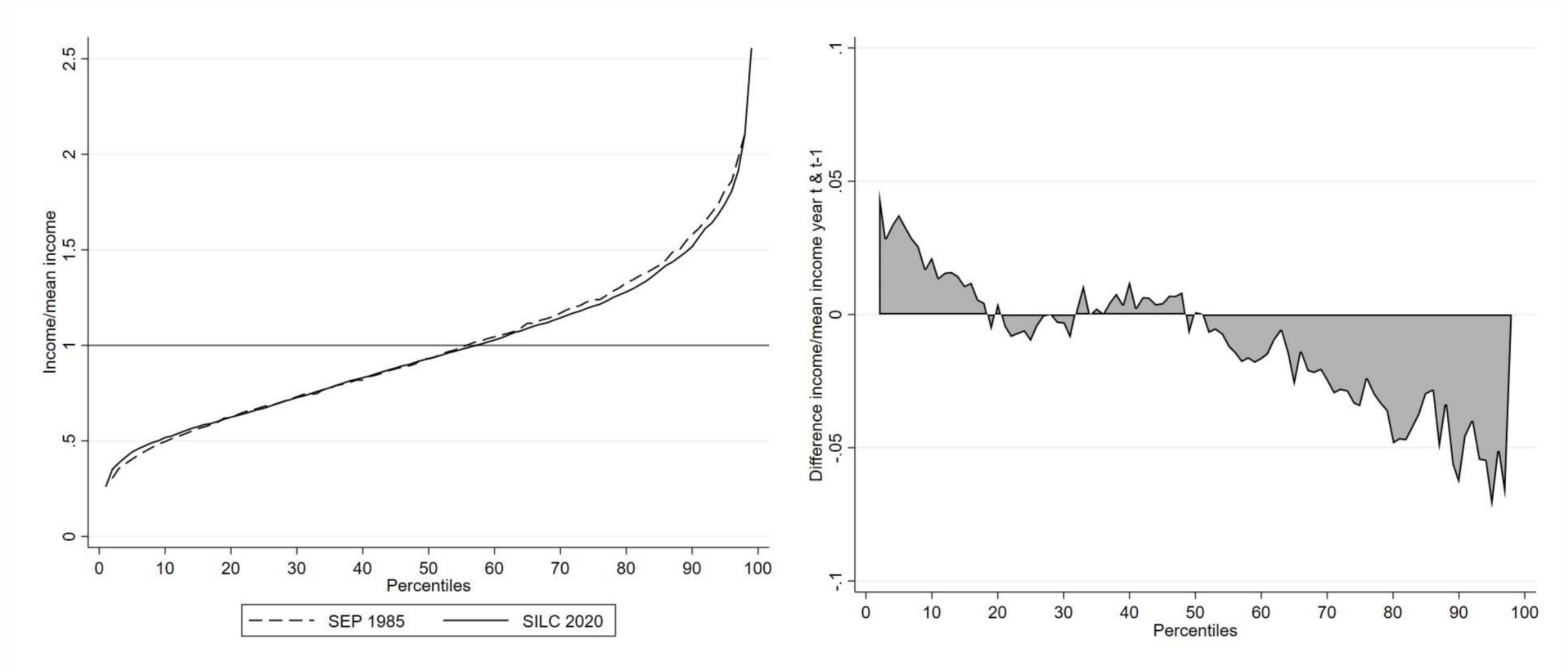
85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20

# BE-PARADIS dataset

- **Important harmonization: type of income information covered**
  - Monthly versus yearly incomes
  - SEP & ECHP cover only net incomes, SILC covers both net and gross incomes
    - SEP 1985: (simplified) net-to-gross trajectory
    - SEP 1988/92/97: net-to-gross trajectory of MISIM model (Verbist, 2003)
    - ECHP: net-to-gross trajectory based on MISIM model of 1997
- **Yet, ex-post harmonization cannot bridge all differences between the surveys**

# Indicator

Graphical representation of difference between mean-normalised quantile functions over time:  $\frac{Q_t(p)}{\mu_t} - \frac{Q_{t-1}(p)}{\mu_{t-1}}$



# Constructing counterfactual distributions

- Using semi-parametric reweighting (DiNardo-Fortin-Lemieux, 1996)

$$f_C(y) = \int_{z \in \Omega_Z} f(y|z, t_y = t) \times dF(z, t_z = t')$$

$$f_C(y) = \int_{z \in \Omega_Z} f(y|z, t_y = t) \times \underbrace{\omega(z)}_{\substack{\text{reweighting} \\ \text{function}}} \times dF(z, t_z = t)$$

Where

$$\omega(z) = \frac{f(z|t_z=t')}{f(z|t_z=t)} = \frac{\Pr(t_z=t'|z)}{\underbrace{\Pr(t_z=t|z)}_{\substack{\text{estimated with} \\ \text{probit/logit}}}} \times \frac{\Pr(t_z=t)}{\Pr(t_z=t')}$$

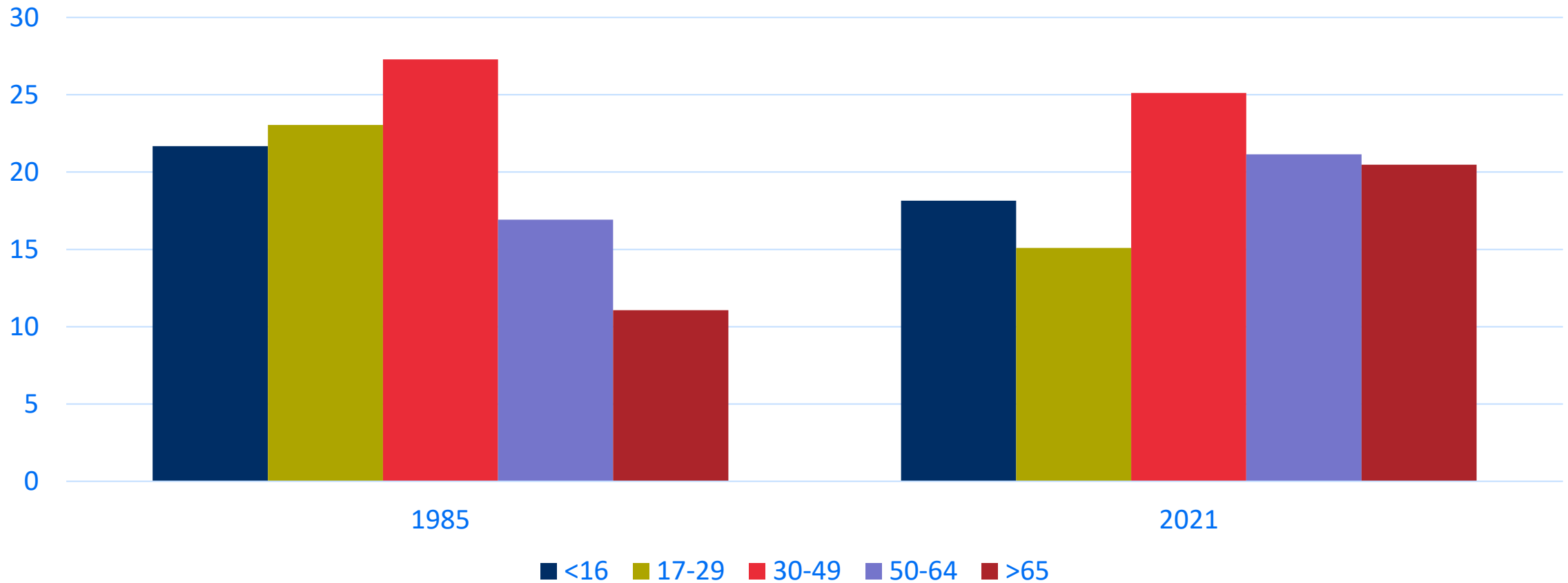
- Marginal effects and total effect (sequential effects included in the paper)



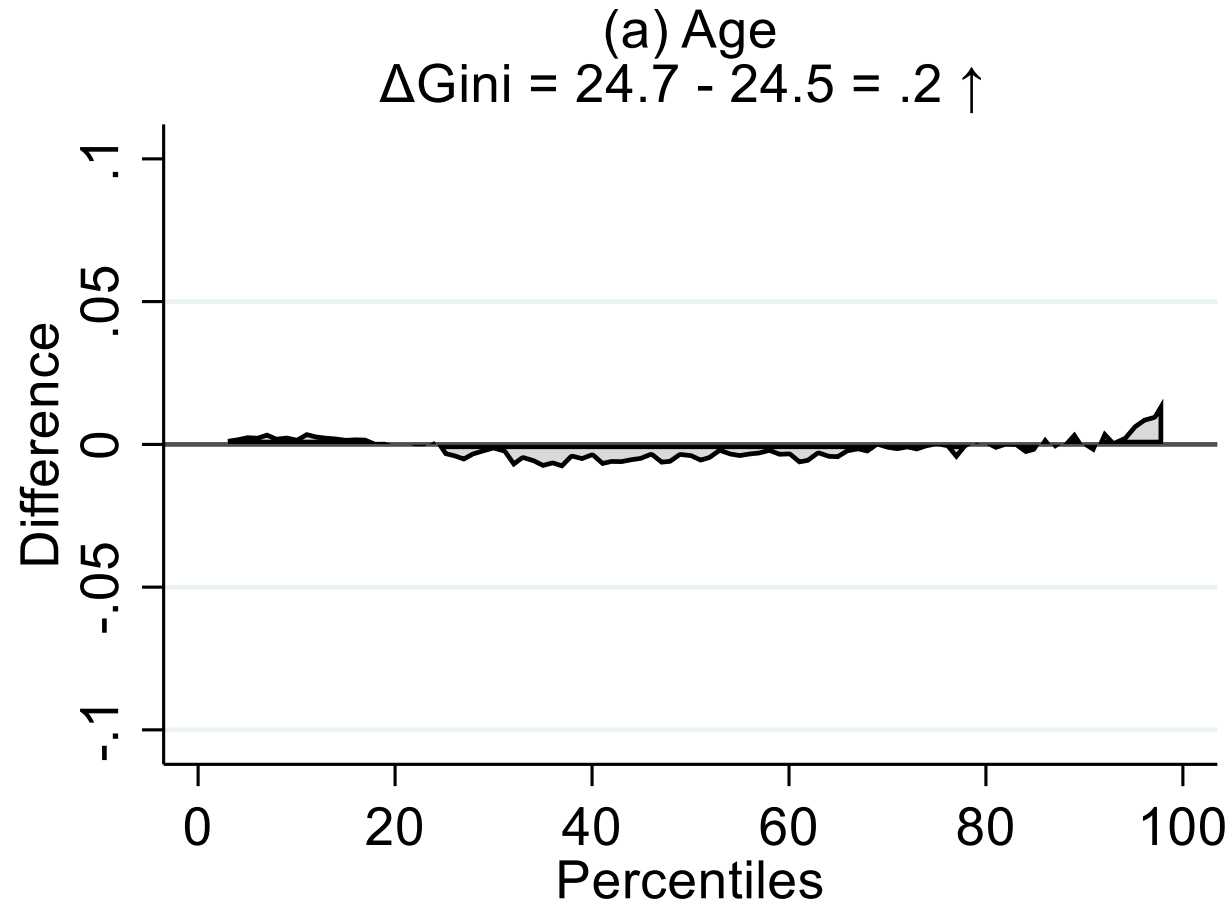
# Results

# Population aging

Population distribution by age category

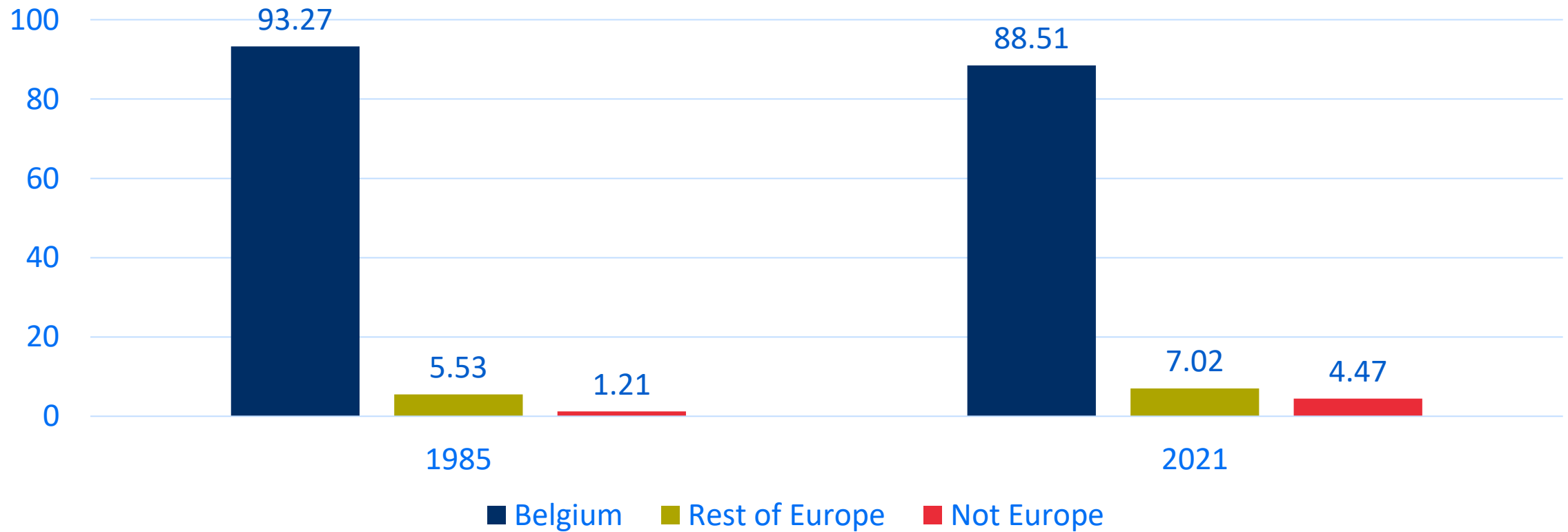


# Population ageing increases inequality (a bit)



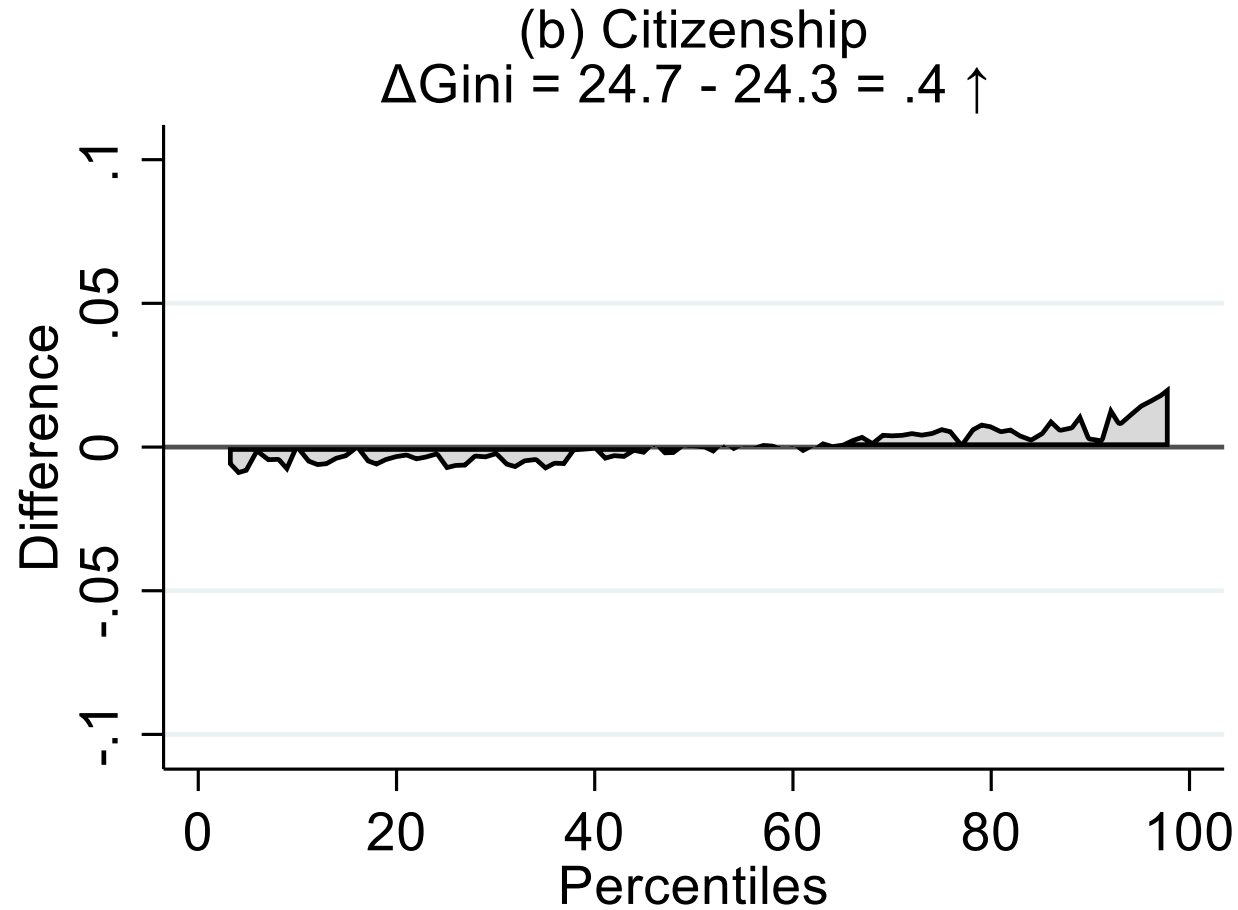
# Citizenship

Population distribution by citizenship



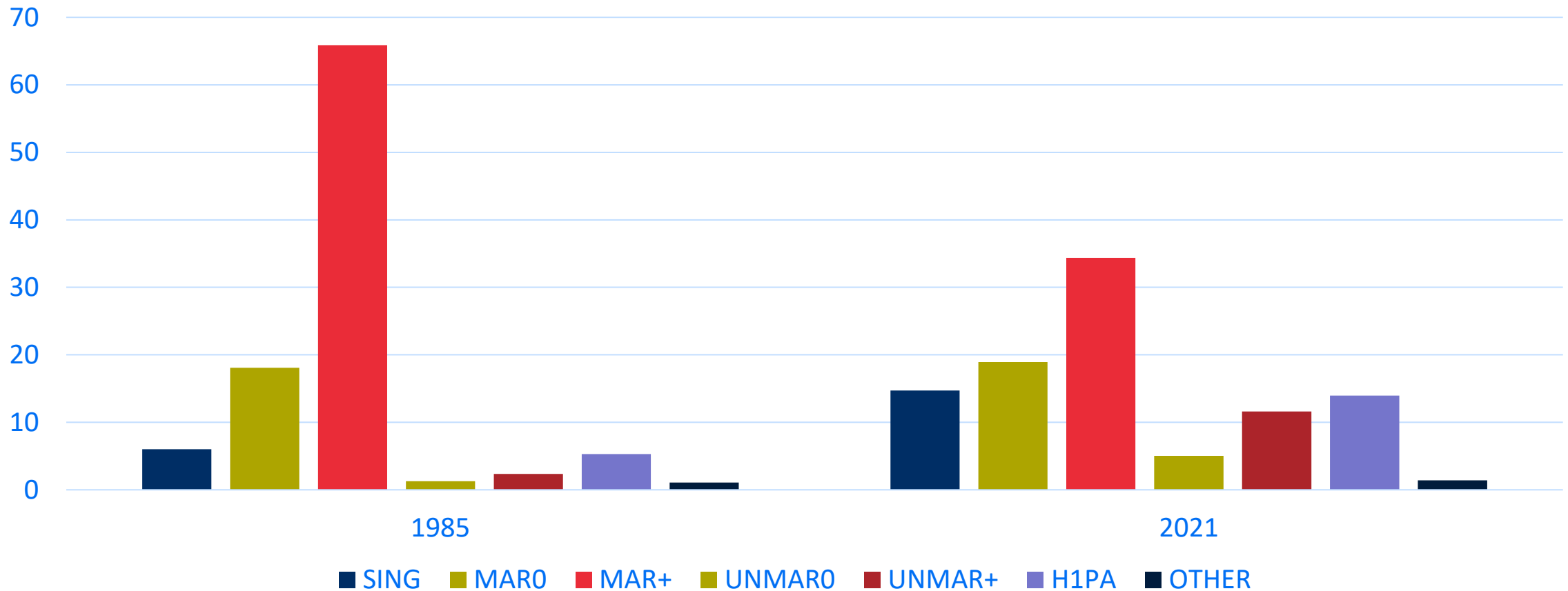
Source: BE-PARADIS dataset

# Citizenship increases inequality (a bit)

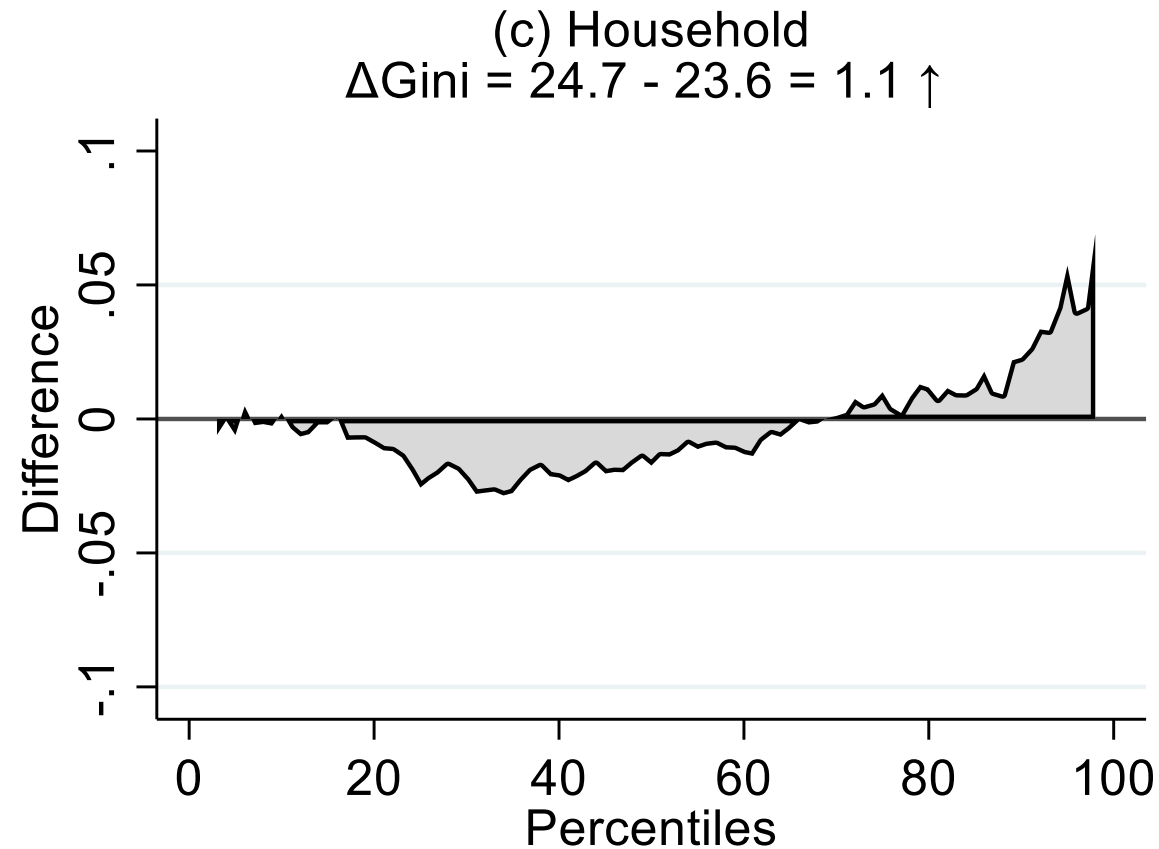


# Household composition

Population distribution by household type (LIPRO)

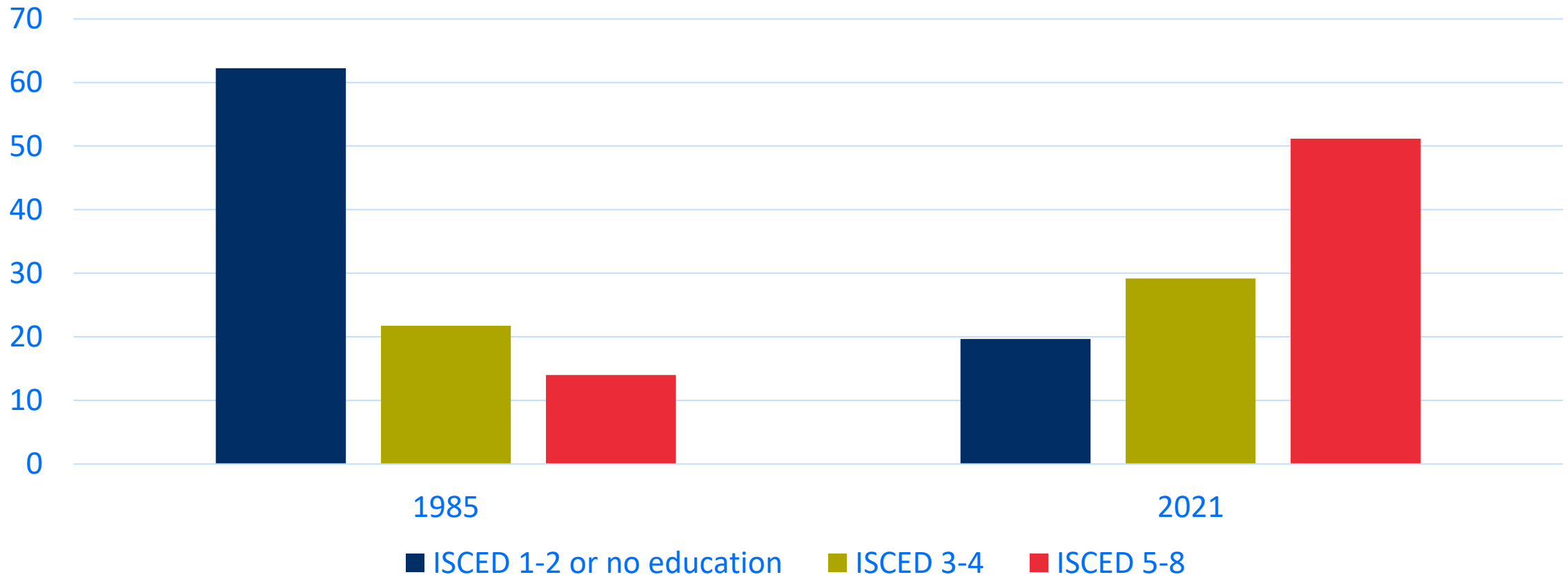


# Household composition increases inequality



# Education

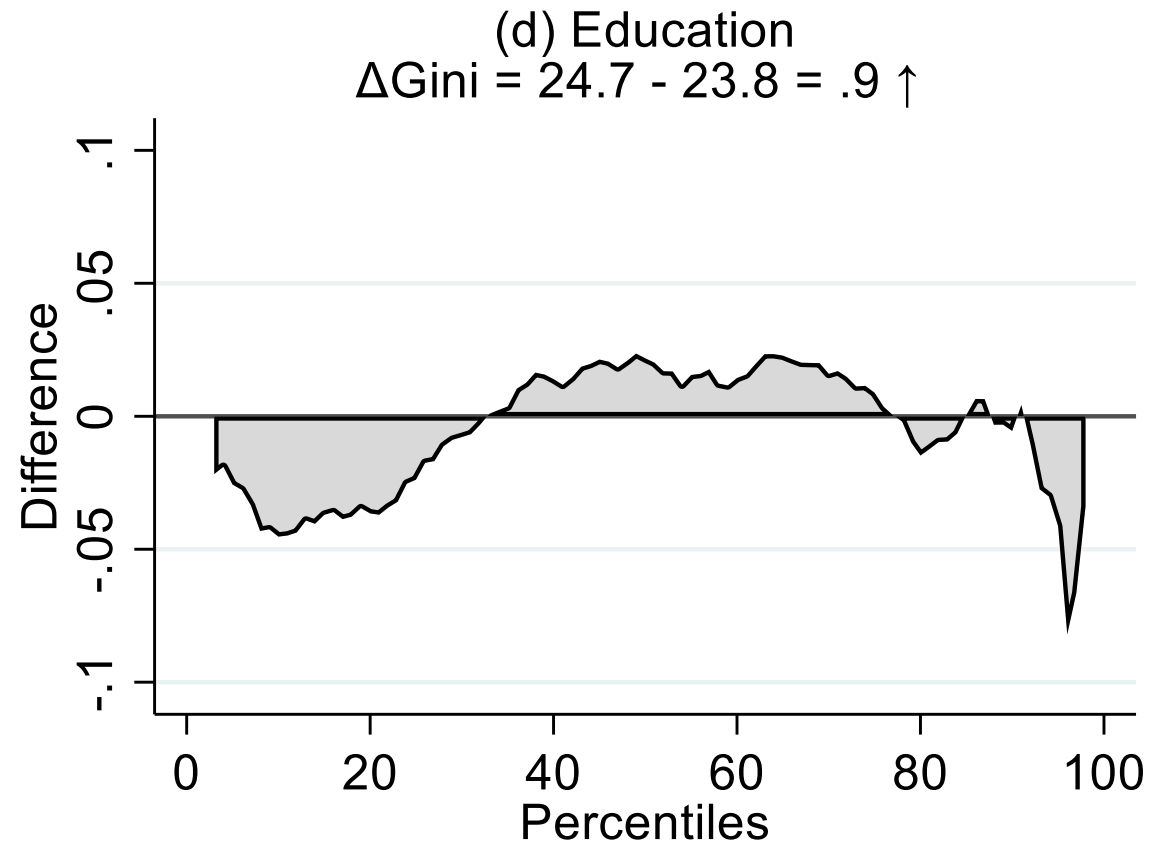
Population distribution by education level



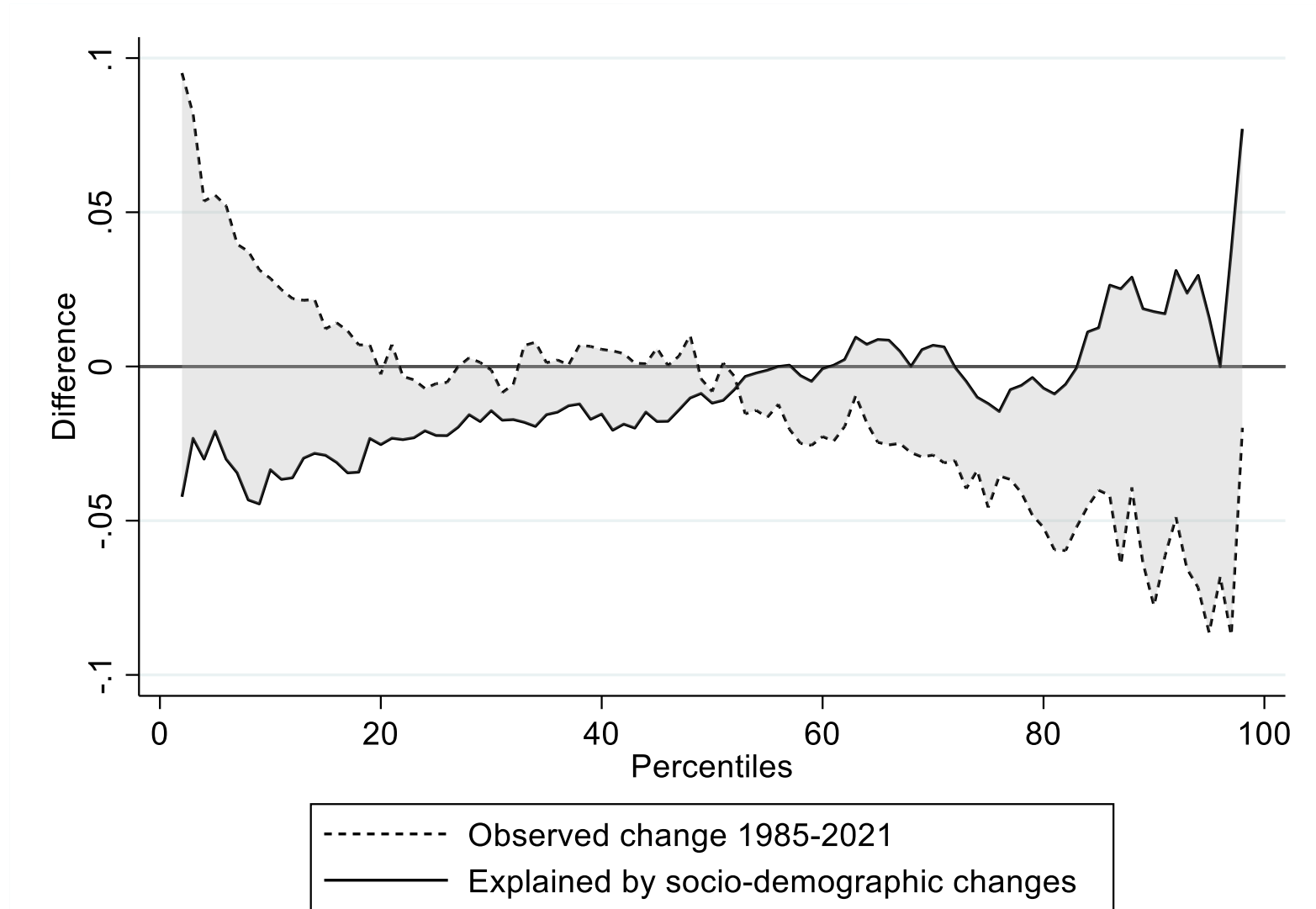
Source: BE-PARADIS dataset



# Education increases inequality



# Demographic changes do not tell the full story ...



# Conclusion

- **Socio-demographic composition of Belgian population changed significantly between 1985 and 2021**
- **All studied demographic changes have had an inequality increasing impact**
- **Taken together they result in a 2.1 increase in the Gini index**
- **Importantly, this does not align with actual observed trends**
- **Implies that they were counteracted by other societal changes**
- **Next steps**
  - What is the impact of changes in the labour market?
  - What is the impact of tax benefit policy reforms?

# Thanks for your attention

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