

# How, When, and Where Does the Opportunity Gap in the Netherlands Open Up?

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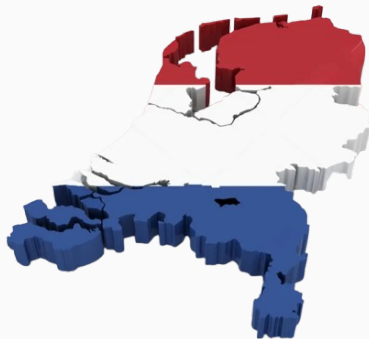
# Equality of Opportunity

- **Equality of Opportunity** refers to the principle that all individuals should have an equal chance to succeed, regardless of their background.
- **Intergenerational Mobility** refers to the association between child and parent income.

# Introduction

The Netherlands is known for its egalitarian society:<sup>a</sup>

- with generous **social insurance programs**
- publicly funded **education and healthcare systems**



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<sup>a</sup>..based on the principle that all people are equal and deserve equal rights and opportunities.

# Aim

To what extent does such an egalitarian system lead to equal opportunities for all children, regardless of the circumstances in which they grow up?

# Analysis of Income Mobility

- We link 27 administrative data files, at the individual level, stored at Statistics Netherlands
- Children born between 1981 and 1985, approximately 821,000 children
- We link children to...
  - **Parent income:** Average parent income between 2003 and 2007
  - **Child income:** Average child household income at age 34 and 35 (2015-2020)

## Additional Analysis

- We analyze four additional samples for newborns and children who recently turned 11, 16, and 21 years old
- We analyze 54 additional outcome variables measuring health and wellbeing, education, work and income, and housing
- We stratify by parents' education, parents' wealth, single-/double-parent household, sex, and migration background

# Overview of Five Analysis Sample

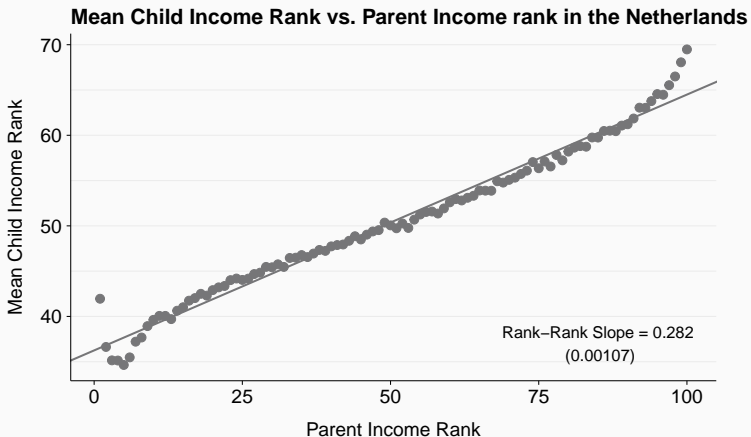
Name (1)	Birth cohorts (2)	Outcomes (3)	Parent income (4)	N (5)
<b>1. 35-year-olds</b>	<b>1981-1985</b>	<b>Ages 34-35</b>	<b>2003-2007</b>	<b>821,189</b>
2. 21-year-olds	1995-1999	Age 21	2008-2012	949,466
3. 16-year-olds	2000-2004	Age 16	2014-2018	953,857
4. Primary school	2003-2006	In grade 8	2014-2018	689,480
5. Newborns	2011-2020	At birth	2010-2014	1,558,979

# Three-part Analysis

We describe three features of intergenerational mobility in the Netherlands:

1. **National Statistics** in Intergenerational Mobility
2. **Spatial Variation** in Intergenerational Mobility
3. **Correlations** in Intergenerational Mobility

# Rank-Rank Relationship

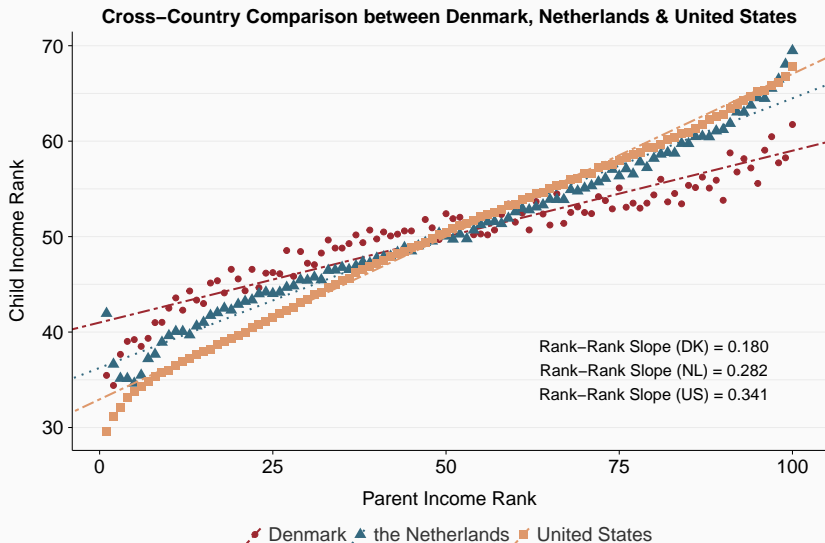


Binned scatter plot for child household income at age 35 (vertical) and parents' income measured when children were in their early twenties (horizontal)

▶ Rank-rank slope

▶ Lower tail

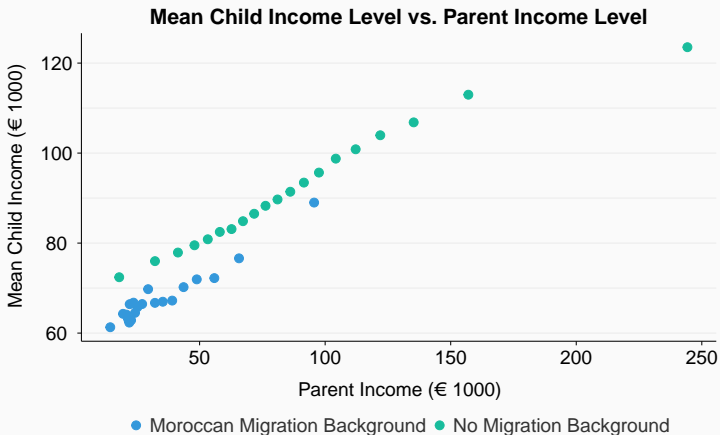
# Rank-Rank Cross-country Comparison



# Cross-country Comparison Table

Paper	Country	Slope
1. Chetty et al., 2014	US	0.341
2. Rohenkohl, 2023	UK	0.301
<b>3. Lam et al., 2024</b>	<b>NL</b>	<b>0.283</b>
4. Barbieri et al., 2020	Italy	0.260
5. Landersø and Heckman, 2017	Denmark	0.253
6. Bratberg et al., 2017	Germany	0.245
7. Corak, 2020	Canada	0.242
8. Bratberg et al., 2017	Norway	0.223
9. Bratberg et al., 2017	Sweden	0.215
10. Deutscher and Mazumder, 2020	Australia	0.215
11. Helsø, 2021	Denmark	0.203
12. Boserup et al., 2016	Denmark	0.180
13. Heidrich, 2017	Sweden	0.182
14. Corak and Heisz, 1999	Canada	0.174
15. Chuard and Schmiedgen-Grassi, 2020	Zwitzerland	0.140

# Level-Level Relationship in the Netherlands



► Fraction migration background

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The

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## Outcome

Select an outcome:

Household income 35-Year-Olds

Select a parental characteristic: ?

 Parental Income

Select an option: ?

 Line  Average

## General explanation

Interpretation

Causality

Household income refers to the average gross annual household income of 35-year-olds over the years that they turned 34 and 35.

The **blue group** consists of 614.461 35-year-olds without a migration background who grew up in The Netherlands. The **green group** consists of 22.059 35-year-olds with a Moroccan migration background who grew up in The Netherlands.

Each dot in the figure is based on 5% of 35-year-olds ranked on the horizontal axis ranked from low to high income within the respective group. The vertical axis shows the average household income.

Show explanation of:

 Outcome  Parental Income

## Blue group

Geography

The Netherlands

Sex

Total

Migration background

No Migration Background

Number of parents in household

Total

 Show single group

## Green group

Geography

The Netherlands

Sex

Total

Migration background

Morocco

Number of parents in household

Total

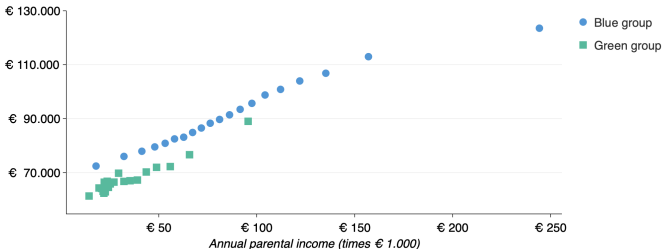
## Household income (35-Year-Olds)



Download data

Download figure

Make a screenshot



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## Outcome

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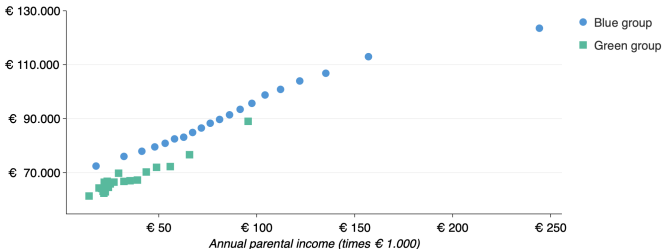
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Show explanation of:

 Outcome  Parental Income

## Household income (35-Year-Olds)

Download data Download figure Make a screenshot



## Blue group

Geography

The Netherlands

Sex

Total

Migration background

No Migration Background

Number of parents in household

Total

 Show single group

## Green group

Geography

The Netherlands

Sex

Total

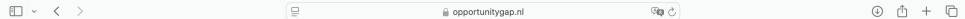
Migration background

Morocco

Number of parents in household

Total

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**Outcome**

Select an outcome:  
Household income 35-Year-Olds

Select a parental characteristic: ?

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 Outcome  Parental Income

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**Geography**  
The Netherlands

**Sex**  
Total

**Migration background**  
No Migration Background

**Number of parents in household**  
Total

Show single group

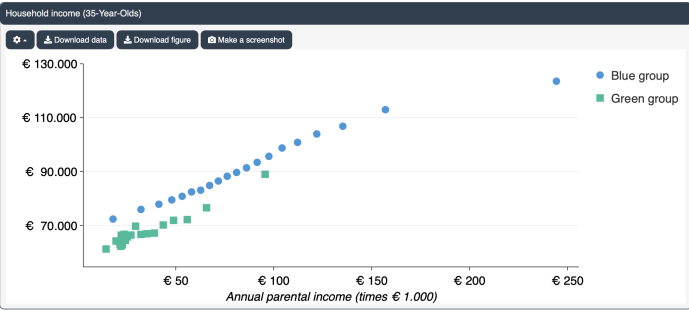
**Green group**

**Geography**  
The Netherlands

**Sex**  
Total

**Migration background**  
Morocco

**Number of parents in household**  
Total



# Intergenerational Mobility from Birth to Adulthood

Outcome	10th percentile	90th percentile	% difference
<b>Health and wellbeing</b>			
Small for gestational age (newborns)	15.90%	9.11%	-42.68%
Preterm birth (newborns)	7.67%	6.00%	-21.76%
Infant mortality (newborns)	0.35%	0.20%	-41.52%
Child protective order (16-year-olds)	4.66%	0.18%	-96.05%
Teenage parenthood (21-year-olds)	1.31%	0.13%	-90.44%
Health care spending (35-year-olds)	€1193	€900	-24.56%
<b>Education</b>			
Test score very high (primary school)	10.43%	31.77%	+204.65%
Test score math target level (primary school)	30.93%	61.14%	+97.64%
Enrolled in very high-ability track (16-year-olds)	8.65%	40.61%	+369.57%
Enrolled in university (21-year-olds)	8.33%	37.73%	+352.75%
University degree attained (35-year-olds)	8.74%	33.41%	+282.34%

# Intergenerational Mobility from Birth to Adulthood

Outcome	10th percentile	90th percentile	% difference
<b>Work and income</b>			
Household income (35-year-olds)	€72,068	€110,522	+53.36%
Working (35-year-olds)	74.80%	91.28%	+22.02%
Hourly wage (35-year-olds)	€18.3	€24.5	+33.85%
Basic social benefits (35-year-olds)	7.03%	0.83%	-88.26%
Household wealth (35-year-olds)	€68,340	€164,864	+141.24%
Value gift from parents (35-year-olds)	€2,110	€10,645	+404.60%
<b>Housing</b>			
Living space pp (m <sup>2</sup> ) (16-year-olds)	31.94	45.57	+42.67%
Living with parents (21-year-olds)	71.56%	62.19%	-13.10%
Age left parental home (21-year-olds)	22.64	22.66	+0.10%
Owner-occupied home (35-year-olds)	52.18%	76.47%	+46.54%

# Spatial Variation

To what extent do opportunities of children from low-income families vary by the place where they grow up?

# Geographical Locations

We assign children to...

- the place where they lived on their 15th birthday, with geographic units: municipalities, 3-digit postal code, 4-digit postal code

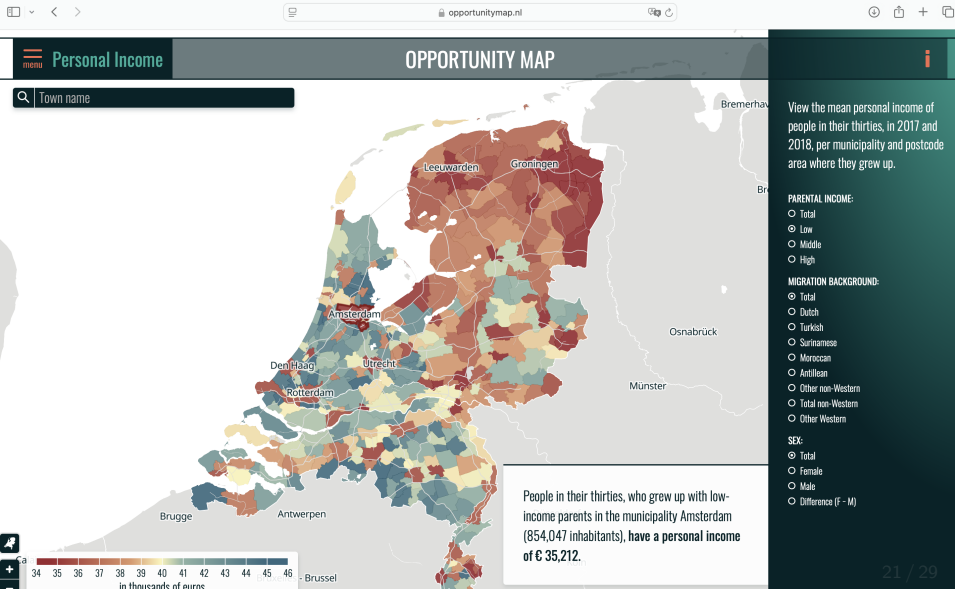
# Overview of Five Analysis Sample

Name (1)	Birth cohorts (2)	Outcomes (3)	Home address (4)	Parent income (5)	N (6)
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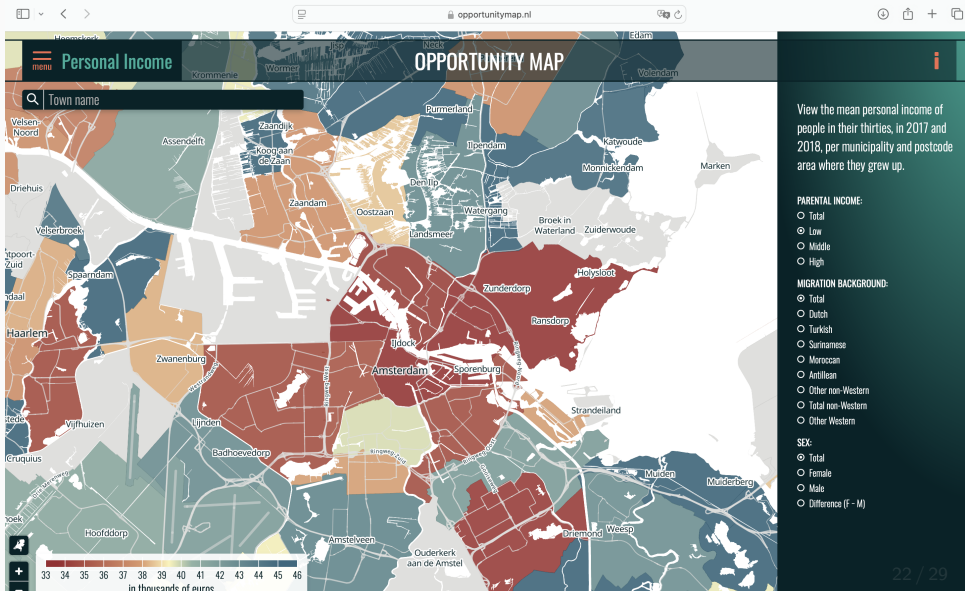
# Spatial Variation in Absolute Upward Mobility

- For each municipality and postcode, we regress the child income rank on the parents' income rank
- We restrict the sample to children with parents between the 15th and 35th percentiles of income ranks
- We predict child income at the 25th percentile of the national parental income distribution, this is our measure of absolute upward mobility
- **Absolute upward mobility:**  $\hat{R}_{25,p} = \hat{\alpha}_p + 25\hat{\beta}_p$

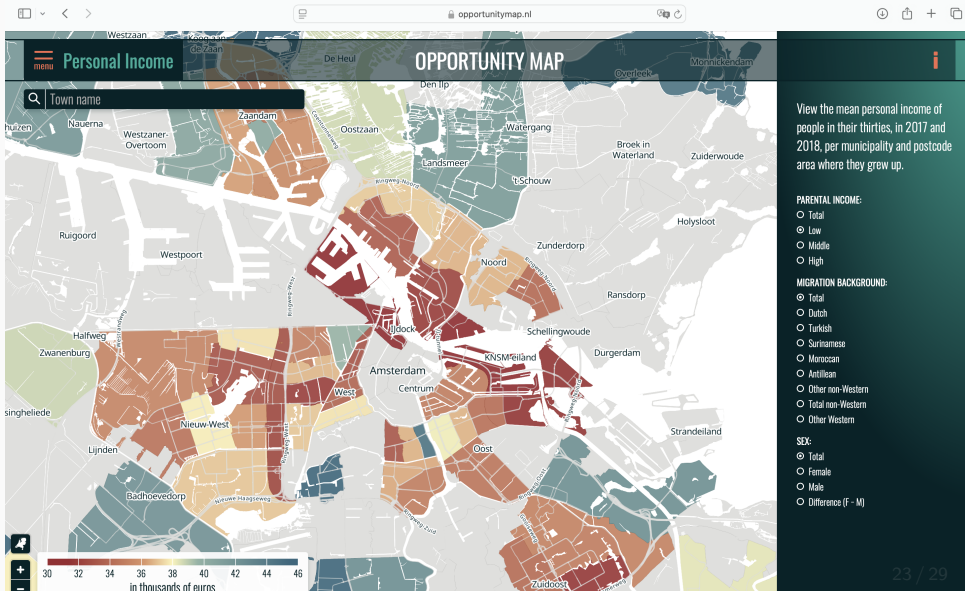
# Absolute Upward Mobility in the Netherlands



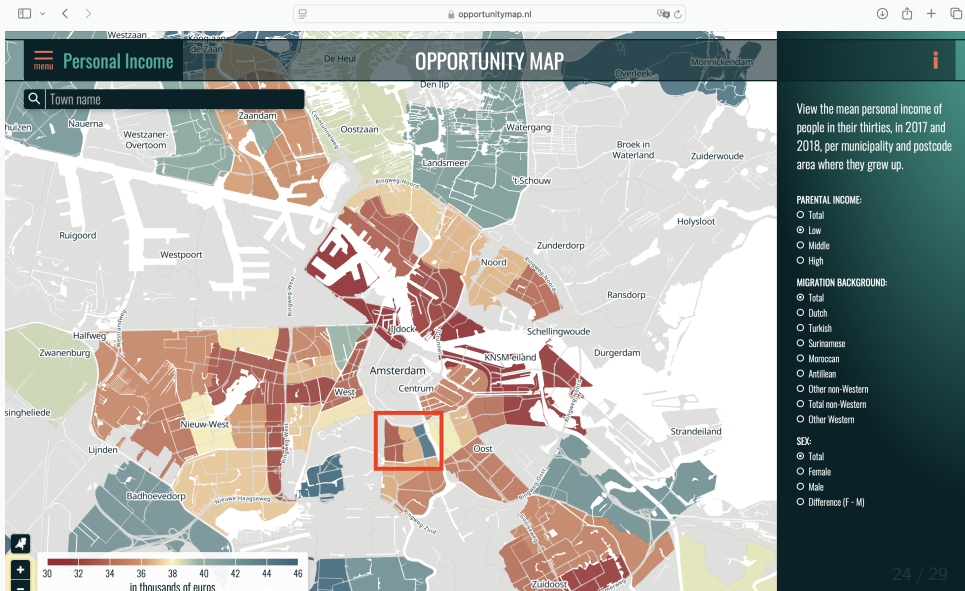
# Absolute Upward Mobility in Amsterdam at Postal Code 3



# Absolute Upward Mobility in Amsterdam at Postal Code 4



# Absolute Upward Mobility in Amsterdam at Postal Code 4

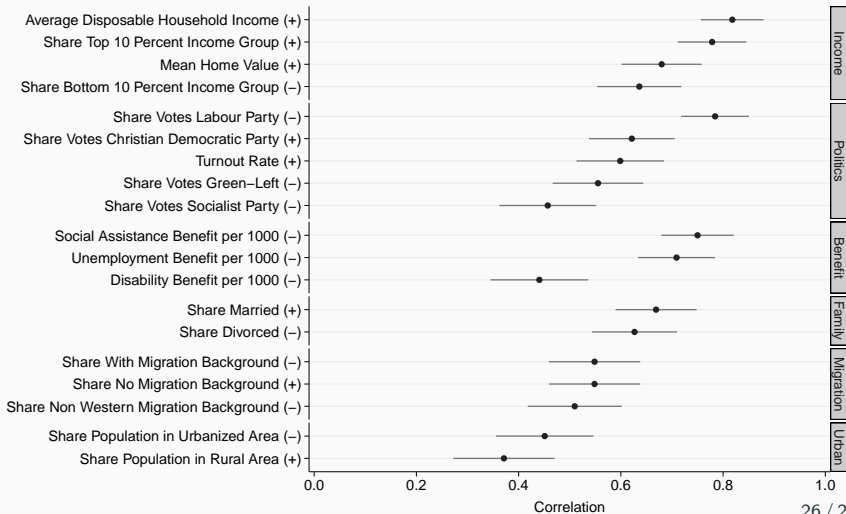


# Correlations

What are the characteristics of places with high and low absolute upward mobility?

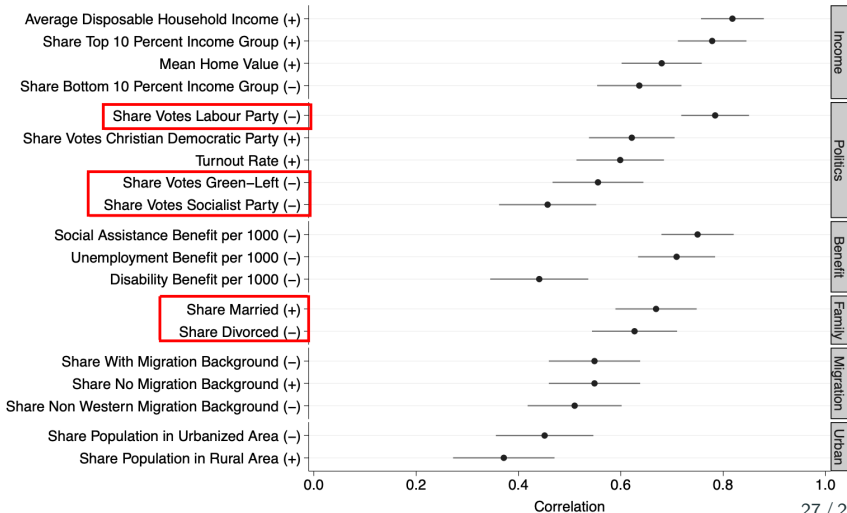
# Correlations with Municipal-Level Characteristics

## Correlations between Municipal-Level Characteristics and Absolute Upward Mobility



# Correlations with Municipal-Level Characteristics

Correlations between Municipal-Level Characteristics and Absolute Upward Mobility



## Take-home Message

The Netherlands is often regarded as an egalitarian society but the reality is more complex:

- The Netherlands has the lowest relative intergenerational income mobility of all developed countries for which this was measured, after the U.S. and the UK.

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- Differences between children from low- and high-income families already start at birth and persist through adulthood.

## Take-home Message

The Netherlands is often regarded as an egalitarian society but the reality is more complex:

- The Netherlands has the lowest relative intergenerational income mobility of all developed countries for which this was measured, after the U.S. and the UK.
- Differences between children from low- and high-income families already start at birth and persist through adulthood.
- Intergenerational mobility varies significantly across regions, even in a relatively small country like the Netherlands.

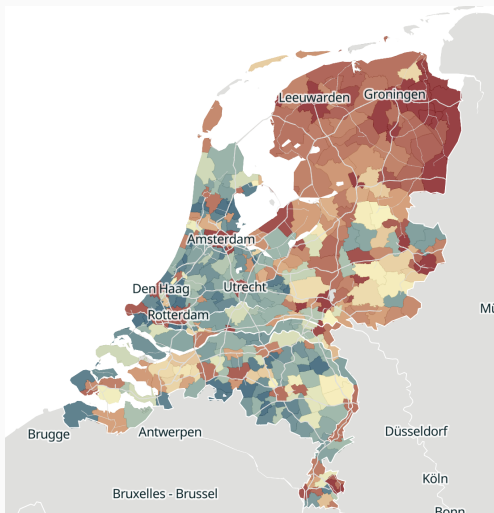
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- Differences between children from low- and high-income families already start at birth and persist through adulthood.
- Intergenerational mobility varies significantly across regions, even in a relatively small country like the Netherlands.
- Spatial variation in upward mobility is strongly correlated with income inequality, neighborhood segregation, social benefits, and family structure.

# Websites

- [www.opportunitymap.nl](http://www.opportunitymap.nl)
- [www.opportunitygap.nl](http://www.opportunitygap.nl)



## References i

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# Comparison of the First 3 Parent Income Percentile Ranks

Variable	First Percentile Rank	Second Percentile Rank	Third Percentile Rank
<u>Type of household (n of children):</u>			
Two-parents household	5753	4353	3450
Single parent household	1507	3,133	3989
Other household type	203	249	291
<u>Parents characteristics:</u>			
Parent wealth in euros	€454,725	€222,559	€128,074
<u>Migration background (n of children):</u>			
No migration background	4505	4126	3814
Has migration background	2958	3609	3916

# Measure of Relative Mobility

- **Relative Mobility:**  $R_{ic} = \alpha + \beta P_{ic} + \varepsilon_{ic}$

Where P = Parent income rank, and R = Child income rank

Rank-rank slope: correlation between parent's and child's position in the national income distribution

- A rank-rank slope of:
  - 0 = no relationship, high mobility  
Child income rank is not determined by their parent income rank.
  - 1 = perfect relationship, low mobility  
Child income rank is entirely determined by their parent income rank.

# Summary Statistics for Birth Cohort, 1981-1985

Variable	mean	Std. Dev	Median
<u>Income:</u>			
Parent income (Avg. 2003–2007)	84,110	55,711	74,889
Child personal income (Avg. age 34–35)	47,215	31,981	43,432
Child household income (Avg. age 34–35)	89,210	62,483	82,594
<u>Migration background:</u>			
Fraction No migration background	74.4%	43.7%	
Fraction Morocco	2.7%	16.1%	
Fraction Turkey	2.6%	16.0%	
Fraction Dutch Caribbean	0.8%	9.1%	
Fraction Suriname	2.9%	16.8%	
Fraction Other	16.6%	37.2%	
<u>Type of household:</u>			
Fraction double-parent	86.5%	34.2%	
Fraction Single-parent	12.6%	33.2%	
Fraction Other	0.9%	9.5%	