

Motivation
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Gender roles
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Intergenerational Educational Mobility and the Role of Gender Norms: Evidence from Turkey

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Istanbul University

GTU Departmental Seminars
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Introduction

- Intergenerational mobility (IGM): Degree of an association between an individual's and their parents' socioeconomic outcomes
 - Income, wealth, occupation, health, poverty, education, etc.

Introduction

- **Intergenerational mobility (IGM):** Degree of an association between an individual's and their parents' socioeconomic outcomes
 - Income, wealth, occupation, health, poverty, education, etc.
- Well-documented literature in developed countries
 - Card et al. 2022; Kroeger and Thompson 2016; Neidhöfer and Stockhausen 2018; Adermon et al. 2021; Black et al. 2005; Braun and Stuhler 2018; Chevalier et al. 2009; Dearden et al. 1997; Meghir and Palme 2005
- Relatively little work on IGM in developing countries
 - Alesina et al. 2021; Asher et al. 2024; Azam and Bhatt 2015; Neidhöfer et al. 2018; Hong and Gruijters 2024

This study

- General picture for intergenerational educational mobility in Turkey for women born between 1955-1995
 - How do trends in mobility change over time?
 - Where is the land of educational opportunities?
 - How do cultural/gender norms during childhood shape mobility patterns?

Motivation

- Turkey provides an interesting case study
 - Expansion in access to education & education campaigns
 - ▶ Gross enrollment rate
 - Substantial heterogeneity across regions in educational attainment
 - ▶ Map

Motivation

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 - Expansion in access to education & education campaigns
 - ▶ Gross enrollment rate
 - Substantial heterogeneity across regions in educational attainment
 - ▶ Map
- Importance of topic
 - Equality of opportunity (Roemer 2000)
 - Inequality → Great Gatsby Curve (Krueger 2012; Corak 2013)
 - Economic development and growth (Narayan and der Weide 2018; Neidhöfer et al. 2024)

Literature

① Intergenerational educational mobility in Turkey

- Tansel 2015; Akarçay-Gürbüz and Polat 2017; Aydemir and Yazıcı 2019; Öztunalı and Torul 2022; Aksu and Gonel 2024

② Neighborhood effects & intergenerational mobility

- Bergman et al. 2024; Chetty and Hendren 2018; Mogstad and Torsvik 2023

③ The effect of gender norms on educational outcomes

- Rodríguez-Planas and Nollenberger 2018; Alat and Alat 2011; Caner et al. 2016

Contribution

- ① mother-daughter pairs
- ② dynamic time trends of mobility and related inequalities
- ③ map of the intergenerational educational mobility across regions in Turkey
- ④ evidence on the effect of gender norms during childhood

Data

- 6 waves of Turkish Demographic and Health Surveys (DHS) from 1993 to 2018
 - Detailed demographic information on women aged 15-49
 - Retrospective questions on parental education after the wave of 2003
 - Information on women's attitudes and gender norms

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- Sample restrictions
 - Women who were at least 23 years old when surveyed
 - Turkish citizens living in Turkey during childhood

Data

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 - Detailed demographic information on women aged 15-49
 - Retrospective questions on parental education after the wave of 2003
 - Information on women's attitudes and gender norms
- Sample restrictions
 - Women who were at least 23 years old when surveyed
 - Turkish citizens living in Turkey during childhood
- Final sample: 26,190 women born between 1955 and 1995

► Descriptive stats

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Gender roles



Educational attainment

- Maternal education as an ordinal variable
 - Children's (Daughter's) education as a continuous variable & the information on the latest education level completed

Educational attainment

- Maternal education as an ordinal variable
- Children's (Daughter's) education as a continuous variable & the information on the latest education level completed
- Coding both maternal and children education in 5 categories
 - ① no education or diploma (ISCED 0)
 - ② primary school completed (ISCED 1)
 - ③ lower secondary school completed (ISCED 2)
 - ④ upper secondary school completed (ISCED 3-4)
 - ⑤ post-secondary/tertiary (ISCED 5-8)

Motivation



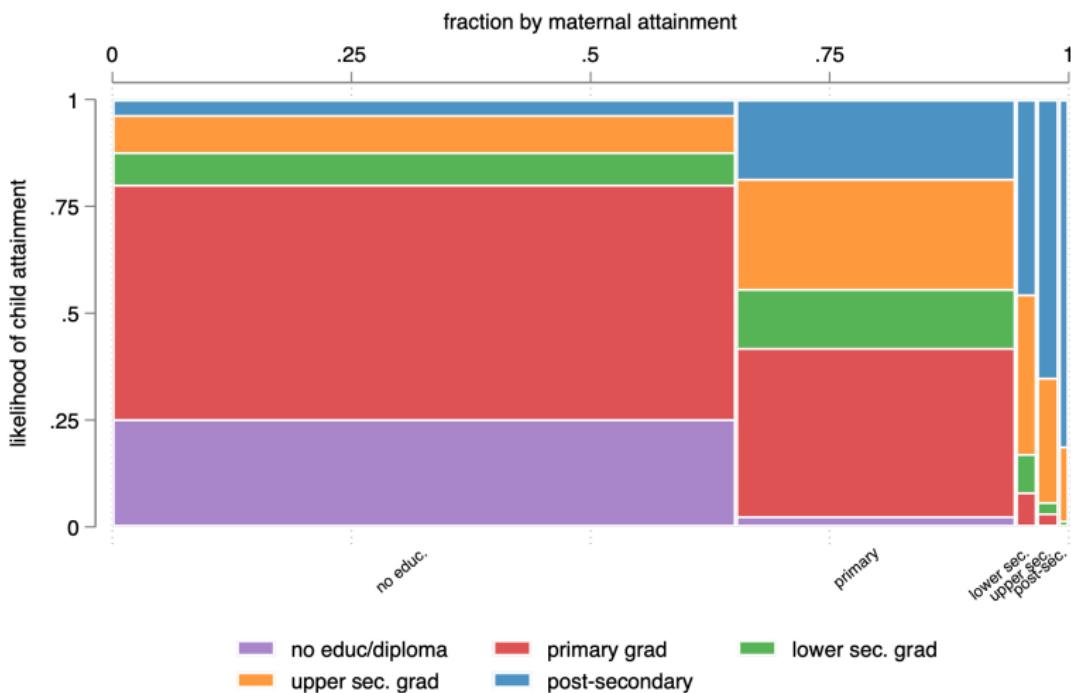
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Gender roles



Transition matrix



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Gender roles
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Methodology

Absolute mobility

① Upward Mobility

$$= \text{Prob}(y_i^c > y_i^m)$$

② Persistence

$$= \text{Prob}(y_i^c = y_i^m)$$

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Methodology

Absolute mobility

- ① Upward Mobility $= \text{Prob}(y_i^c > y_i^m)$
- ② Persistence $= \text{Prob}(y_i^c = y_i^m)$

Transition probabilities

- ① Bottom-up Mobility $= \text{Prob}(y_i^m > s | y_i^m < s)$
- ② Bottom Persistence $= \text{Prob}(y_i^m < s | y_i^m < s)$

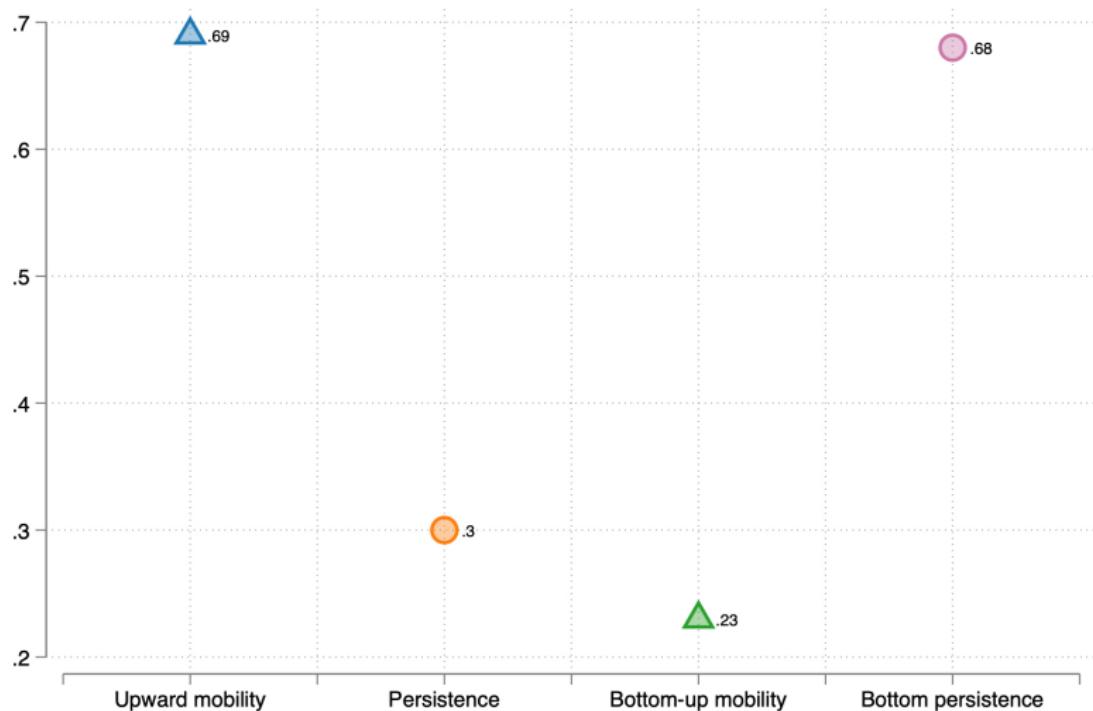
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General picture for mobility



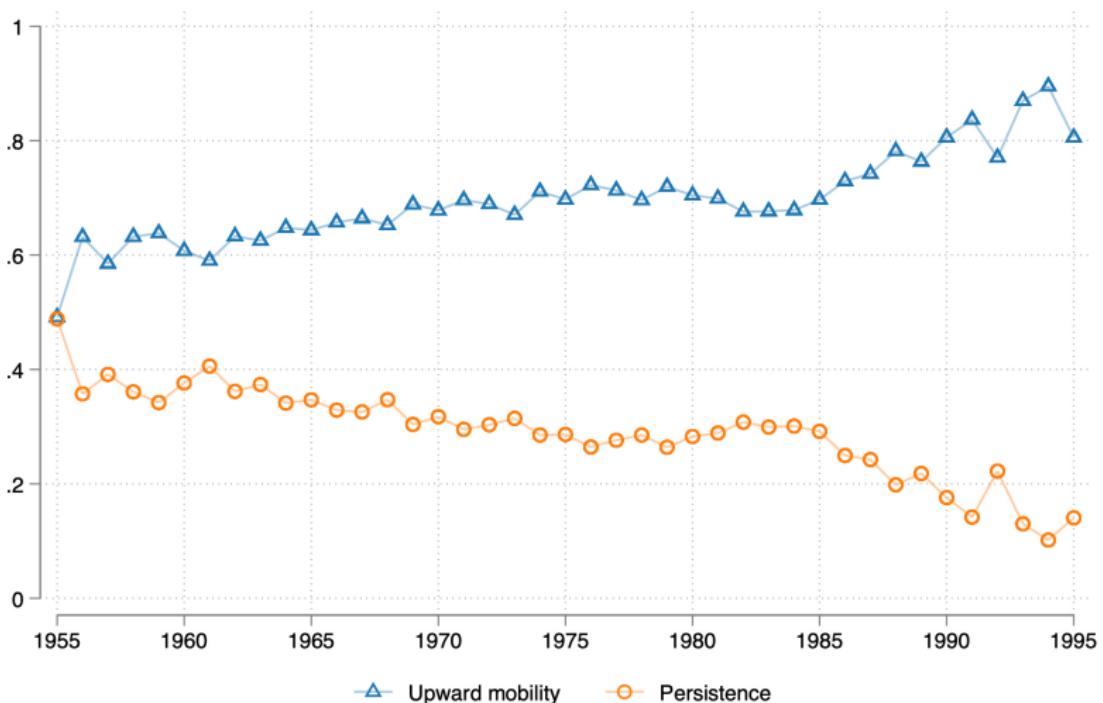
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Mobility trends by birth cohort



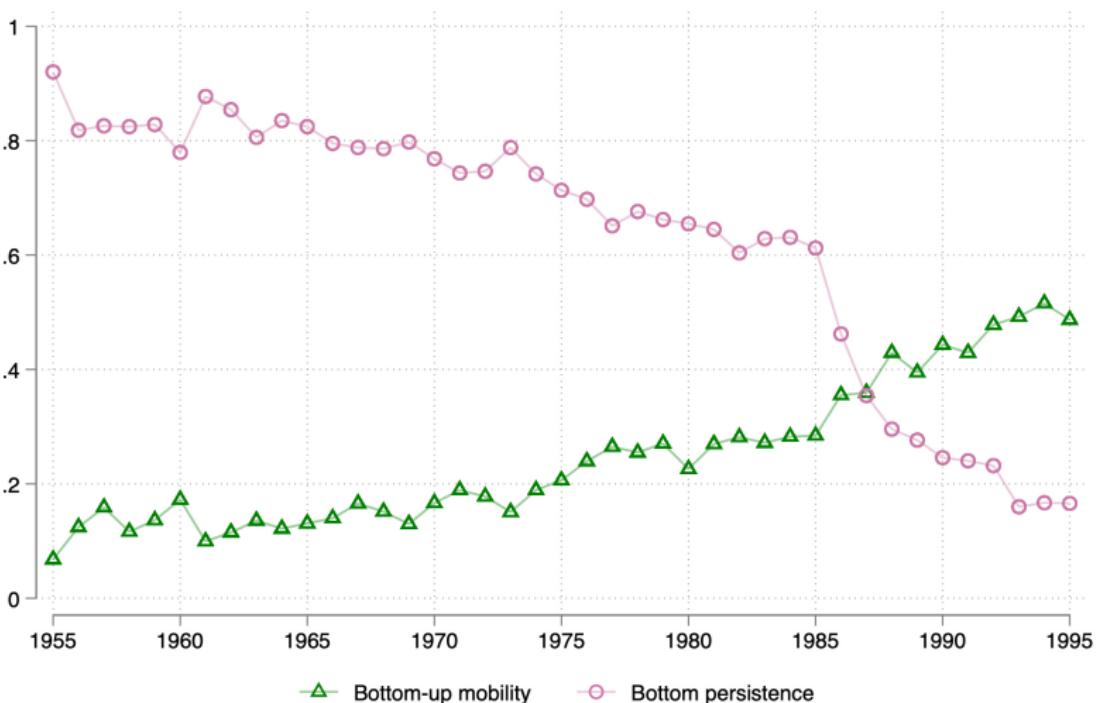
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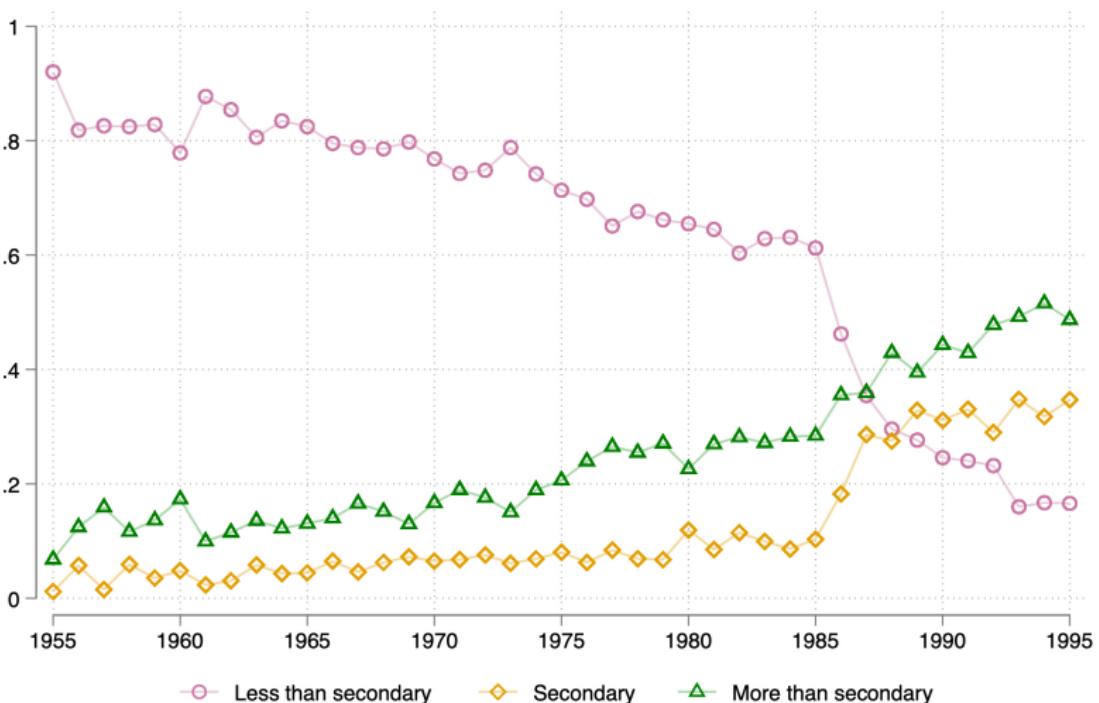
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Transition probabilities by birth cohort



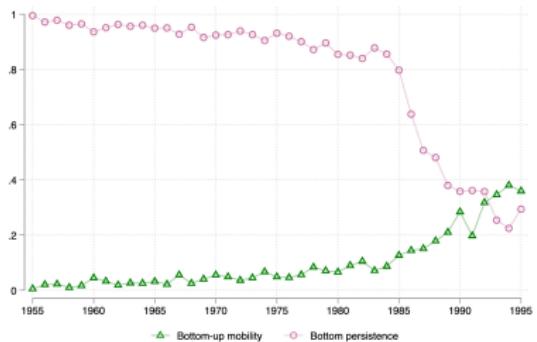
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Effect of compulsory schooling reform

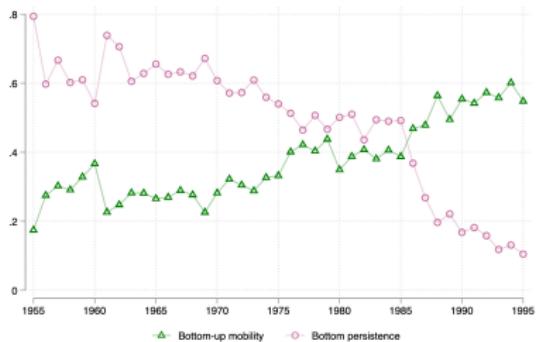


Rural and urban residence during childhood

a) Rural



b) Urban



▶ Absolute mobility

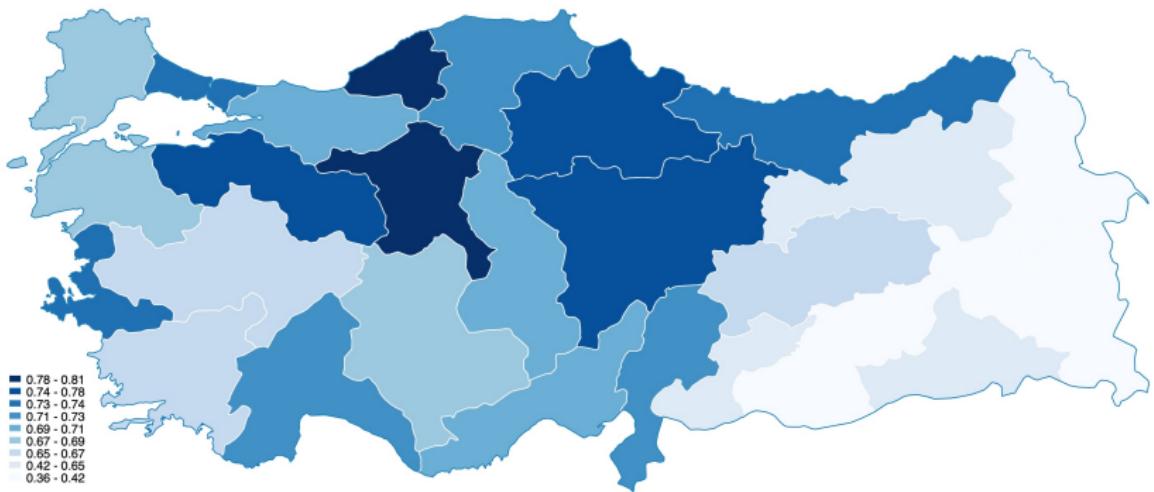
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Upward mobility across regions



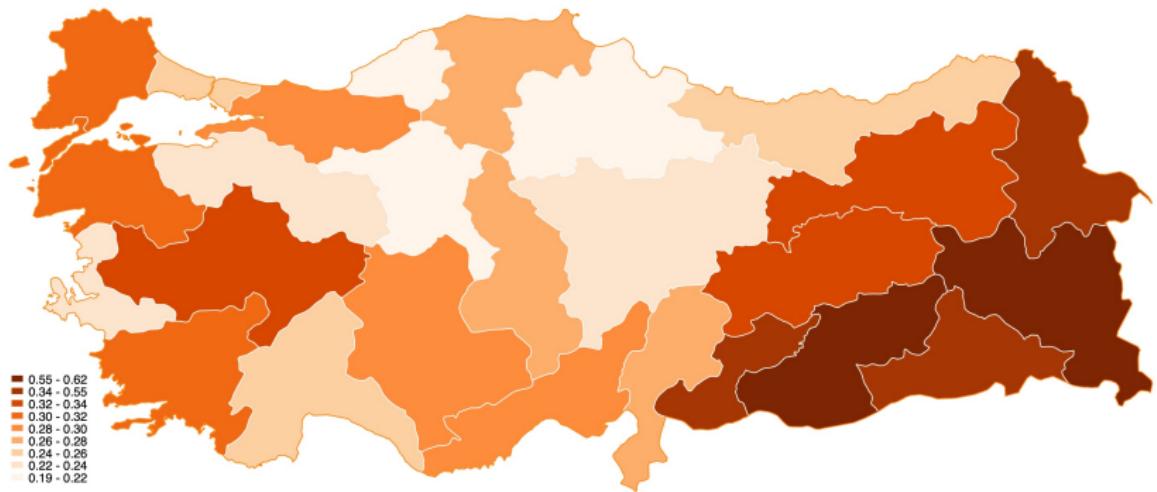
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Persistence across regions



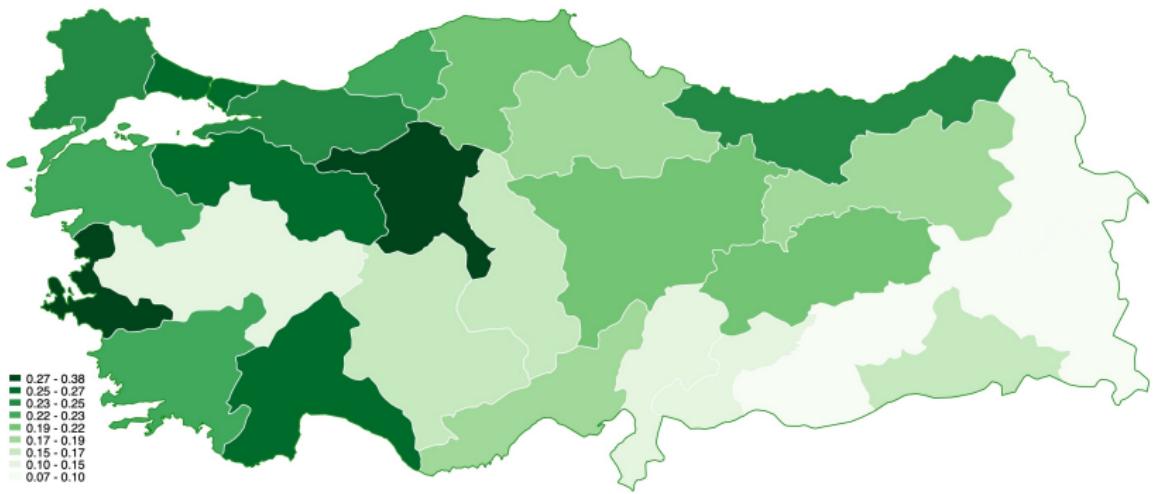
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Bottom-up mobility across regions



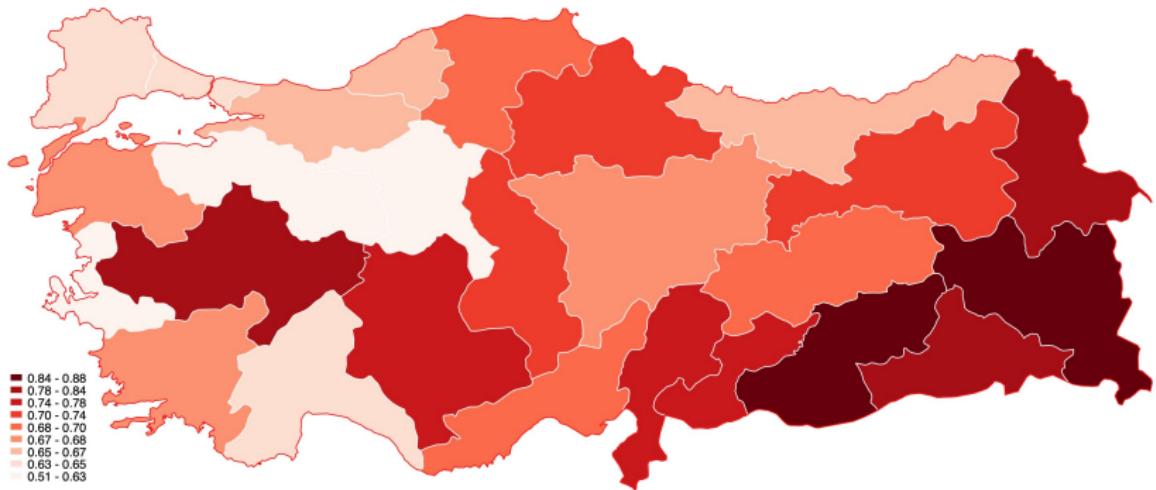
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Bottom persistence across regions



Estimation

$$M_{ijt} = \alpha_0 + \beta(GenderNorm)_{j,t-k} + X'_{ijt}\theta + \mu_j + \delta_t + \gamma_{rt} + \epsilon_{ijt}$$

- M is one of the mobility metrics.
- *GenderNorm* is a proxy for previous generation's view on gender norms in a given region. [► Details](#) [► Map](#) [► Trend](#)
- X controls childhood residence type and parental education levels.
- Fixed effects for birth-cohort and Nuts-2 regions
- 12 Nuts-1 region - year interaction dummies
- Weights are used & standard errors are clustered at the birth cohort level.

The effect of gender norms during childhood

	Upward mobility	Persistence	Bottom-up mobility	Bottom persistence
Gender norm	-0.301*** (0.048)	0.284*** (0.042)	-0.225*** (0.055)	0.318*** (0.064)
Mean	0.691	0.296	0.222	0.682
R-squared	0.242	0.212	0.290	0.366
# of observations	24,697	24,697	23,520	23,520
Covariates	✓	✓	✓	✓
Nuts-2 FEs	✓	✓	✓	✓
Year-of-birth FEs	✓	✓	✓	✓
Nuts-1 time trends	✓	✓	✓	✓

► Raw correlation

► Robustness checks

Heterogeneity by childhood residence type

	Upward mobility	Persistence	Bottom-up mobility	Bottom persistence
<i>Panel A: Rural residence</i>				
Gender norm	-0.408*** (0.077)	0.387*** (0.075)	-0.082* (0.048)	0.157** (0.072)
Mean	0.602	0.386	0.066	0.874
R-squared	0.300	0.257	0.155	0.300
# of observations	11,717	11,717	11,646	11,646
<i>Panel B: Urban residence</i>				
Gender norm	-0.220*** (0.053)	0.220*** (0.050)	-0.252*** (0.073)	0.332*** (0.074)
Mean	0.766	0.221	0.365	0.507
R-squared	0.194	0.160	0.215	0.254
# of observations	12,980	12,980	11,874	11,874
Covariates	✓	✓	✓	✓
Nuts-2 FEs	✓	✓	✓	✓
Year-of-birth FEs	✓	✓	✓	✓
Nuts-1 time trends	✓	✓	✓	✓

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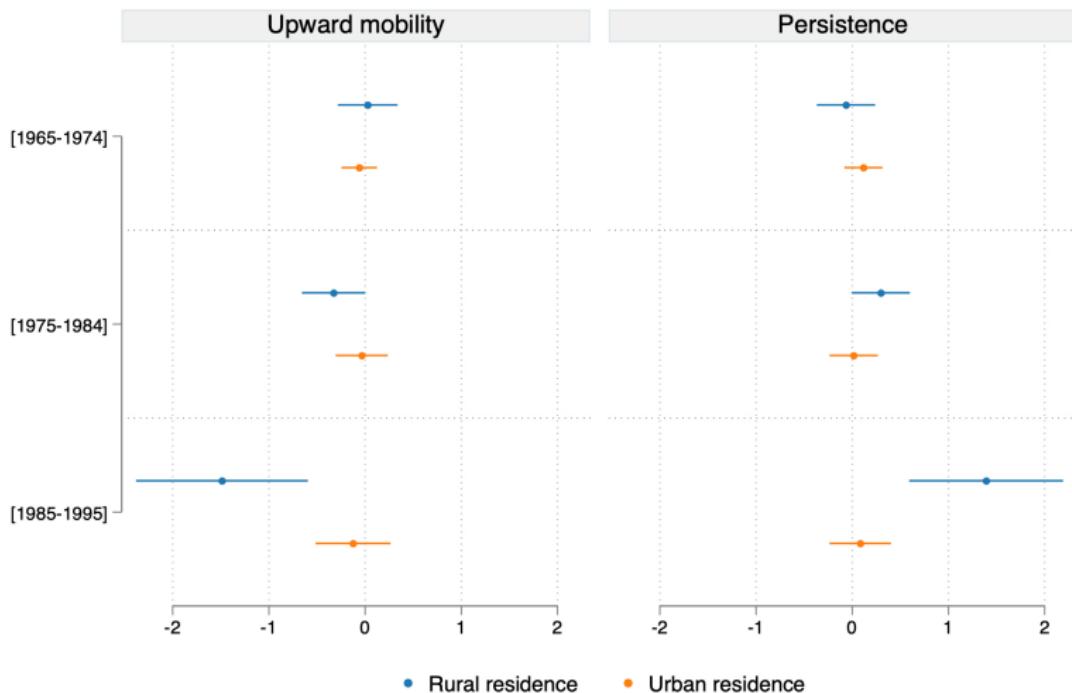


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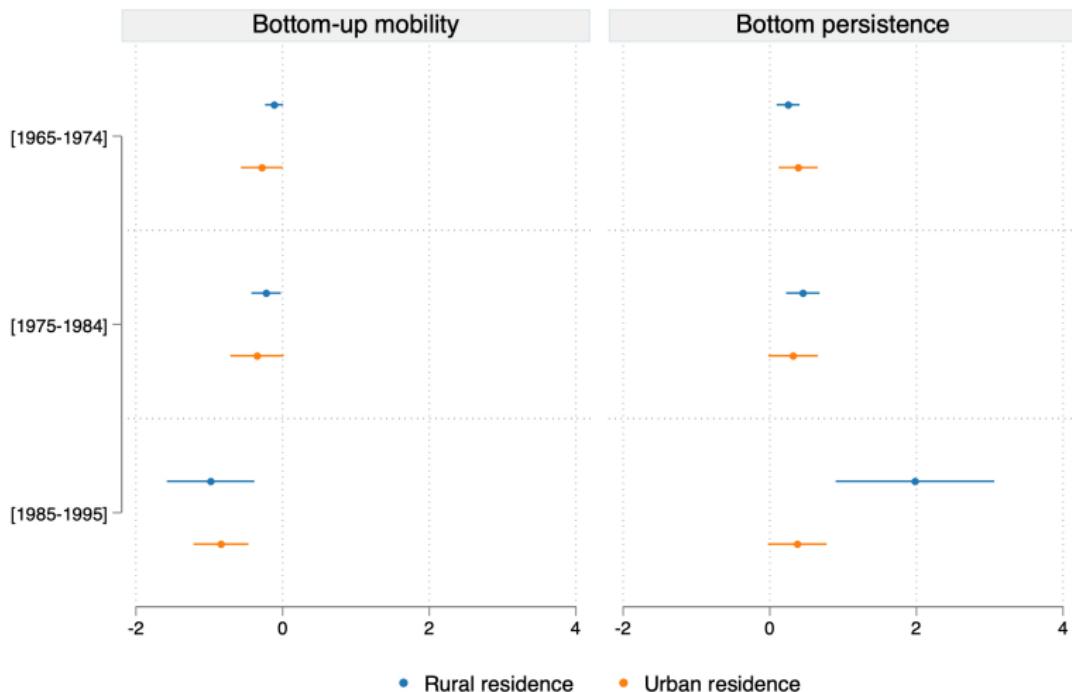
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Heterogeneity by cohort



Heterogeneity by cohort (cont.)

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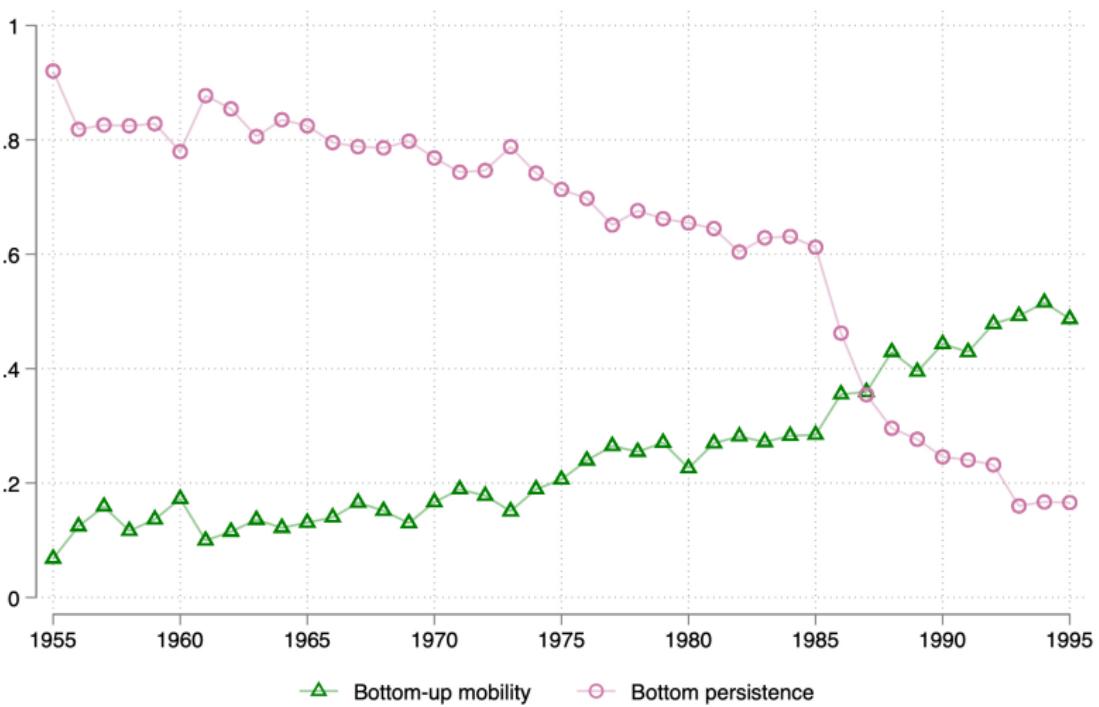


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Gender roles

Transition probabilities by birth cohort



Conclusion & Discussion

- General picture for intergenerational mobility of women in education
 - Low educational attainment of mothers → Relatively high mobility
 - Yet, low transition probabilities → Higher educational inequalities
 - Thanks to compulsory schooling policy, higher mobility and lower persistence for younger cohorts
 - More pronounced effects of policy in rural areas
 - Regional (historical) disparities, still persist
- The exposure to gender norms during childhood matters.
 - Partially explains regional differences
 - But, they are very sticky, act as a barrier in front of women, and prevent from obtaining higher mobility

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Many Thanks !



I'd appreciate any comments:
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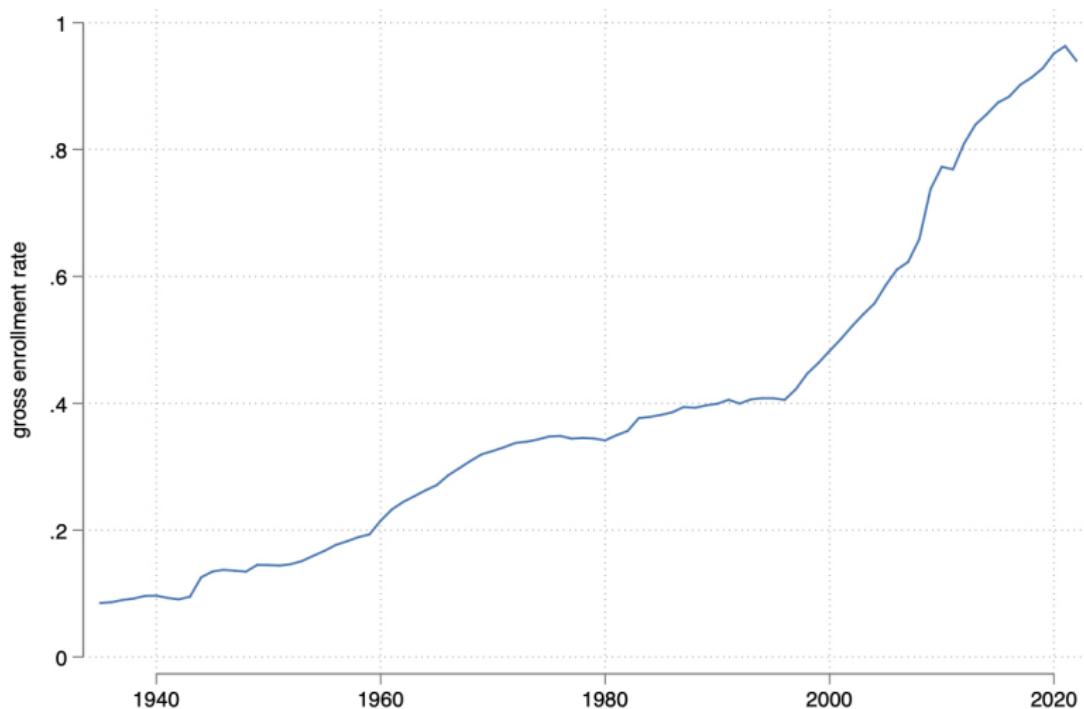
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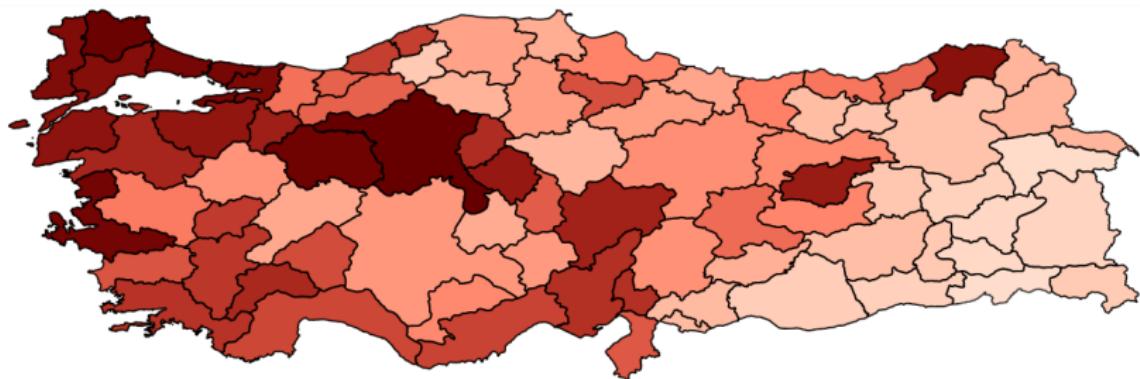
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Gross enrollment rate



Enrollment rate across provinces



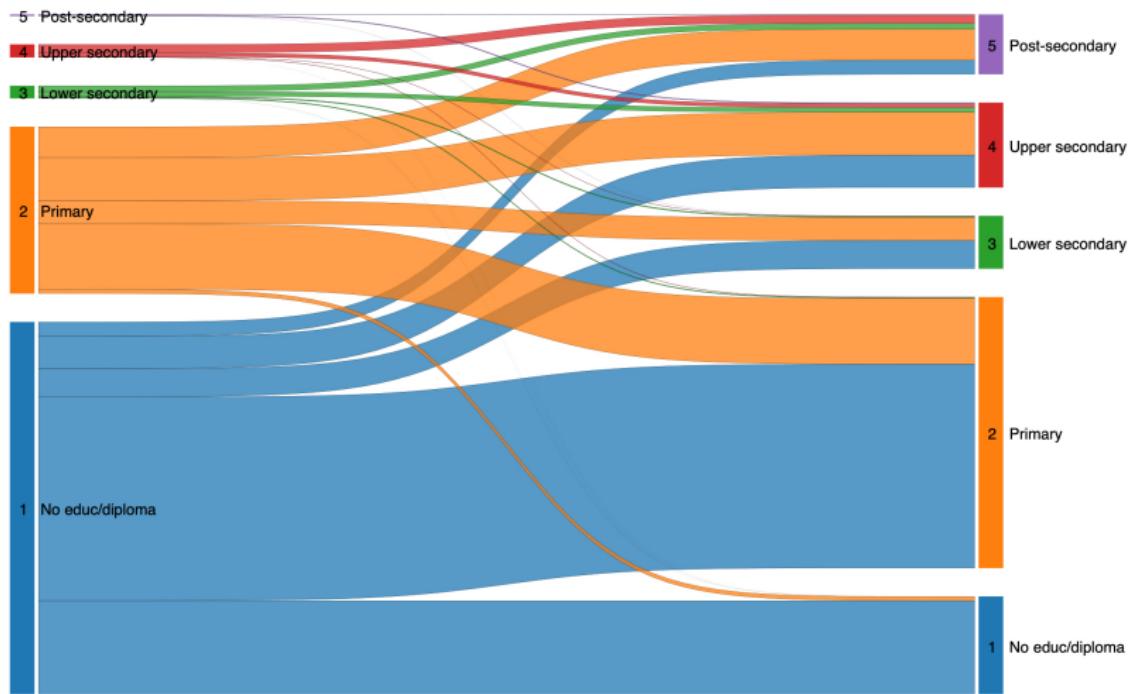
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Descriptive statistics

Educational attainment (%)	
No educ/diploma	17.21
Primary school	47.54
Lower secondary	9.26
Upper secondary	14.88
Post-secondary	11.11
Age when surveyed	
Years of education	35.38
Rural residency in childhood (%)	6.64
Paternal education level	45.44
Maternal education level	1.97
Maternal education level	1.45
# of observations	
	26,190

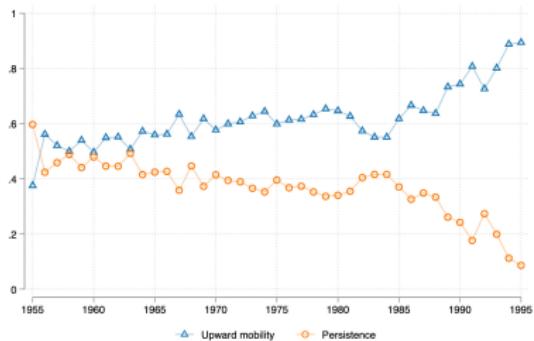
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Sankey educational mobility patterns

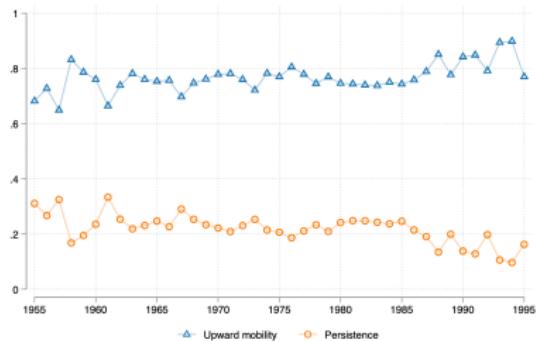


Rural and urban residence during childhood

a) Rural



b) Urban



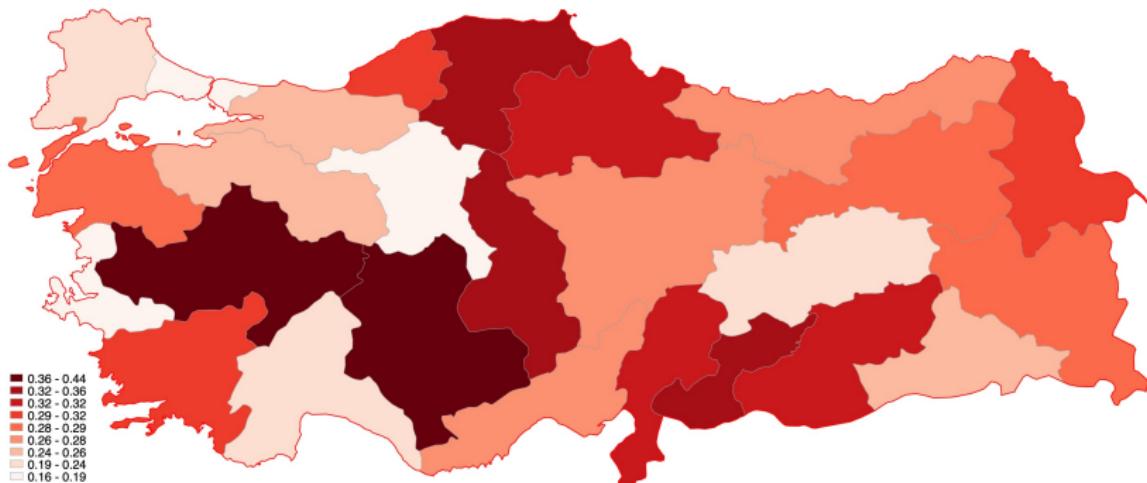
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Questions on gender norm

	Agree (sd.)	Cohorts
It is always better for the male child to have education than female child	0.21 (0.10)	1948-1985
The important decisions in the family should be made by the male members	0.32 (0.12)	1948-1995
Men are usually wiser than women	0.38 (0.15)	1943-1985
Gender norm	0.36 (0.16)	1943-1985

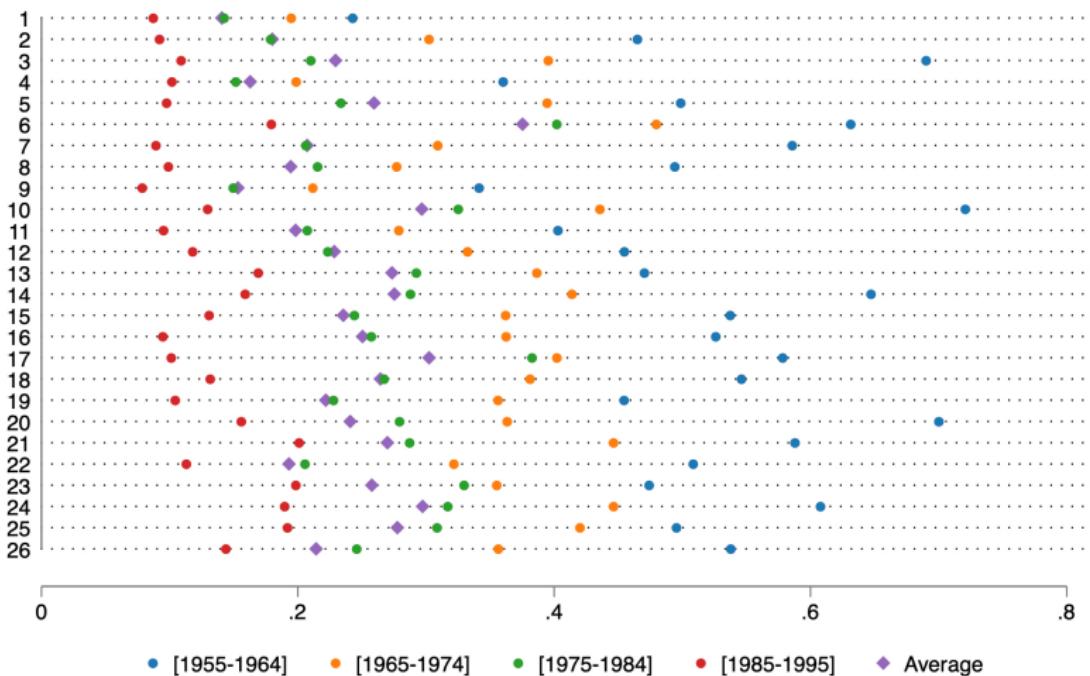
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Map for gender norm

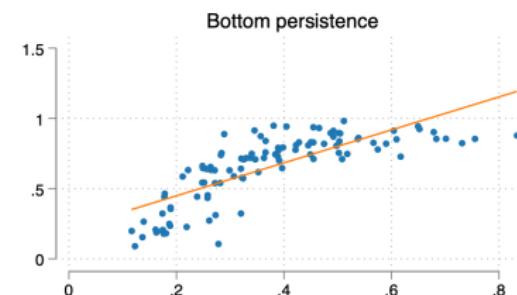
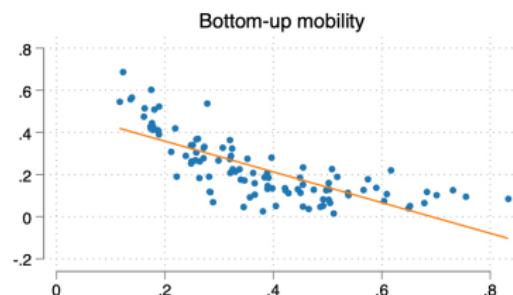
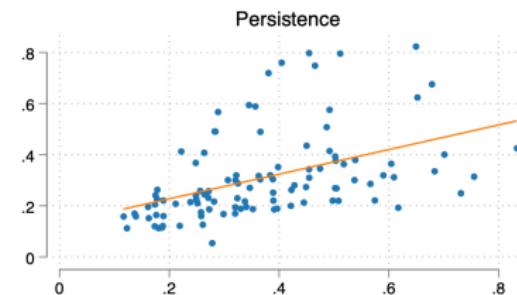
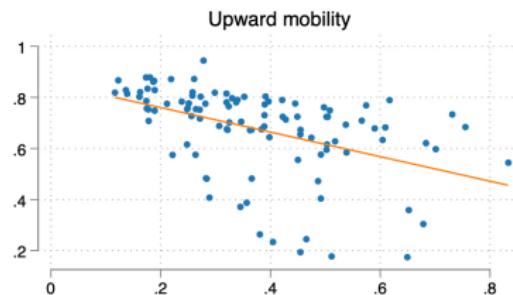


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Trend of gender norm



Raw correlation between gender norms and IGM

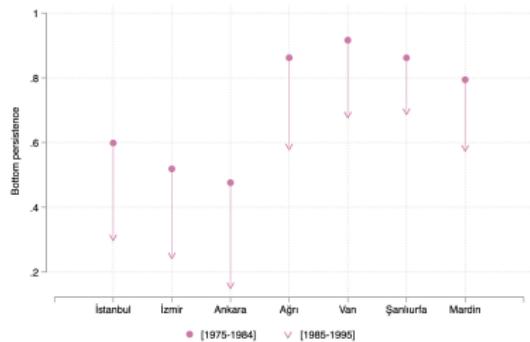
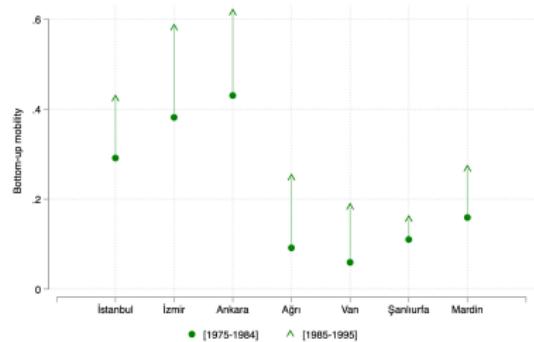
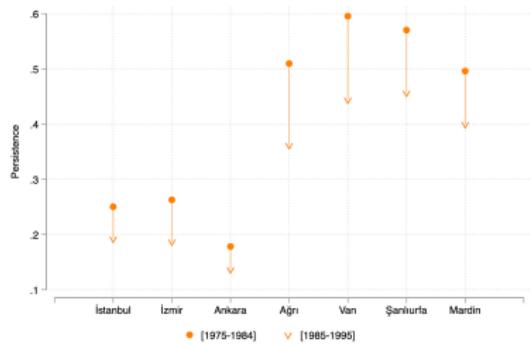
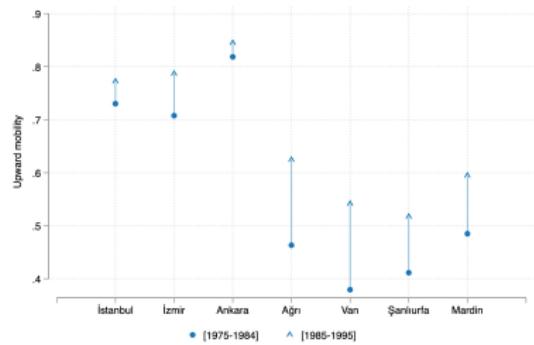


Robustness check

	Upward mobility	Persistence	Bottom-up mobility	Bottom persistence
<i>Q1: Educated son is better than educated daughter</i>				
Gender norm	-0.069 (0.056)	0.059 (0.052)	-0.089 (0.058)	0.124* (0.067)
# of observations	24,033	24,033	22,865	22,865
<i>Q2: Important decisions are made by men</i>				
Gender norm	-0.259*** (0.059)	0.238*** (0.056)	-0.150*** (0.052)	0.223*** (0.062)
# of observations	24,033	24,033	22,865	22,865
<i>Q3: Men is wiser than women</i>				
Gender norm	-0.371*** (0.047)	0.350*** (0.040)	-0.222*** (0.051)	0.316*** (0.056)
# of observations	24,697	24,697	23,520	23,520
Covariates	✓	✓	✓	✓
Nuts-2 FEs	✓	✓	✓	✓
Year-of-birth FEs	✓	✓	✓	✓
Nuts-1 time trends	✓	✓	✓	✓

▶ go back

Change in mobility from [1975-1984] to [1985-1995]



▶ go back