

# Inequalities, Family Structure and Human Capital

SCOR Foundation online webinar

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# Inequality: the top 1% ...

- Recent works (Piketty, Saez, Zucman) on the top (1% or .1%) of the income distribution (' $r > g$ ')

Markets

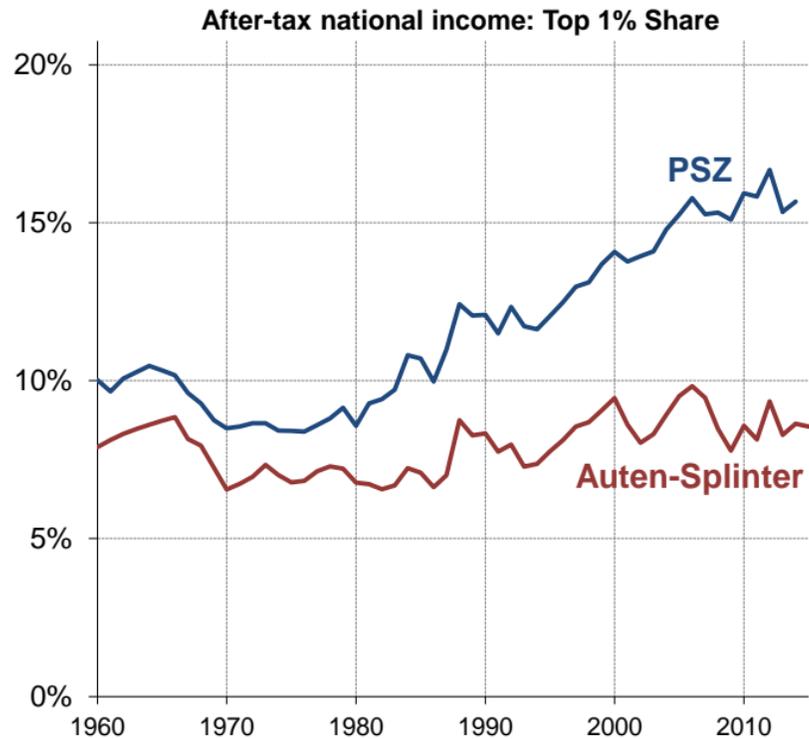
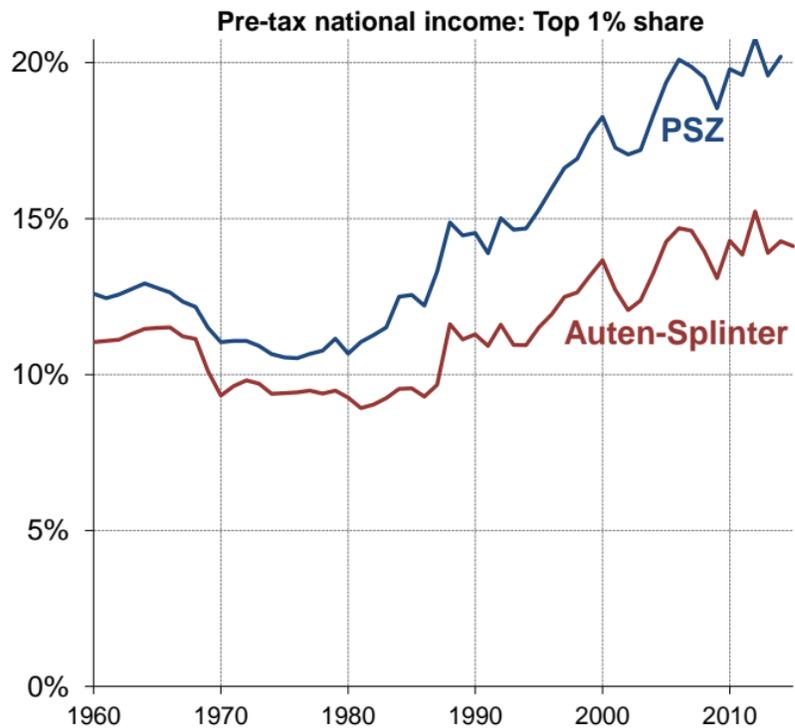


Economy



# Inequality: the top 1% ...

- Recent works (Piketty, Saez, Zucman) on the top (1% or .1%) of the income distribution (' $r > g$ ')
- Recently challenged (Auten and Splinter) ...



**Figure 1: Top 1% shares of national income**

*Notes:* Adjustments used to estimate Auten-Splinter pre-tax and after-tax income are listed in Tables 1 and 2 and described in detail in the online appendix.

*Sources:* Authors' calculations, and Piketty, Saez, and Zucman (2018, PSZ in figure).

# Inequality: the top 1% ...

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- Recently challenged (Auten and Splinter) ...
- ... but obvious downside: **discussion concentrated on the 'Top 1%'**

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  - Definition: *'Human capital consists of the knowledge, skills, and health that people invest in and accumulate throughout their lives, enabling them to realize their potential as productive members of society'* (World Bank)

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- Key role played by **Human Capital**
  - Definition: *'Human capital consists of the knowledge, skills, and health that people invest in and accumulate throughout their lives, enabling them to realize their potential as productive members of society'* (World Bank)
  - Education ... but not only
  - Plays a key role for growth as well as inequality
  - HC as an *investment* (Becker 1967!)
  - **The family as a crucial contributor**

# Inequality and HC: some facts

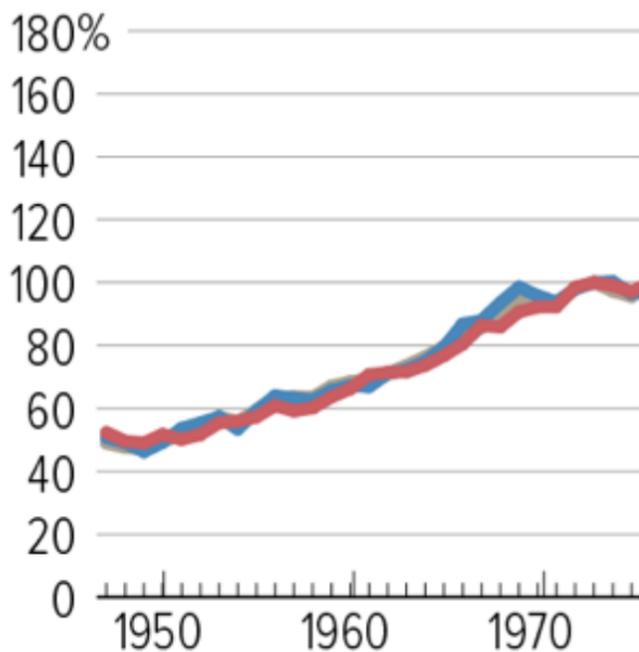
- Facts 1: From the 'glorious three' to the 80s diffraction
- Facts 2: Human Capital and inequality
- Facts 3: Human Capital, urbanization and growth
- Facts 4: Human Capital: demand, supply and gender
- Facts 5: Family investments into Human Capital

# Facts 1: from the 'glorious three' to the 80s diffraction

# Income Gains Widely Shared in Early Postwar Decades — But Not Since Then

(Source: CBPP 2018)

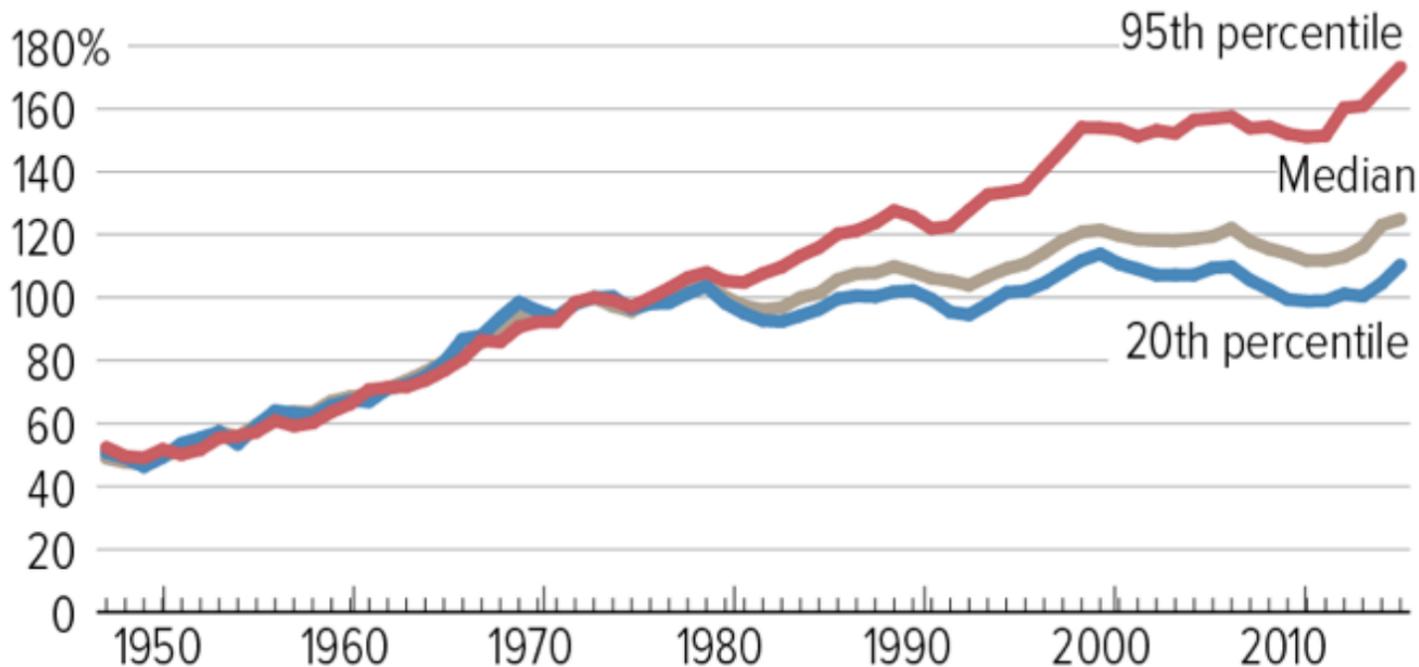
Real family income between 1947 and 2016, as a percentage of 1973 level

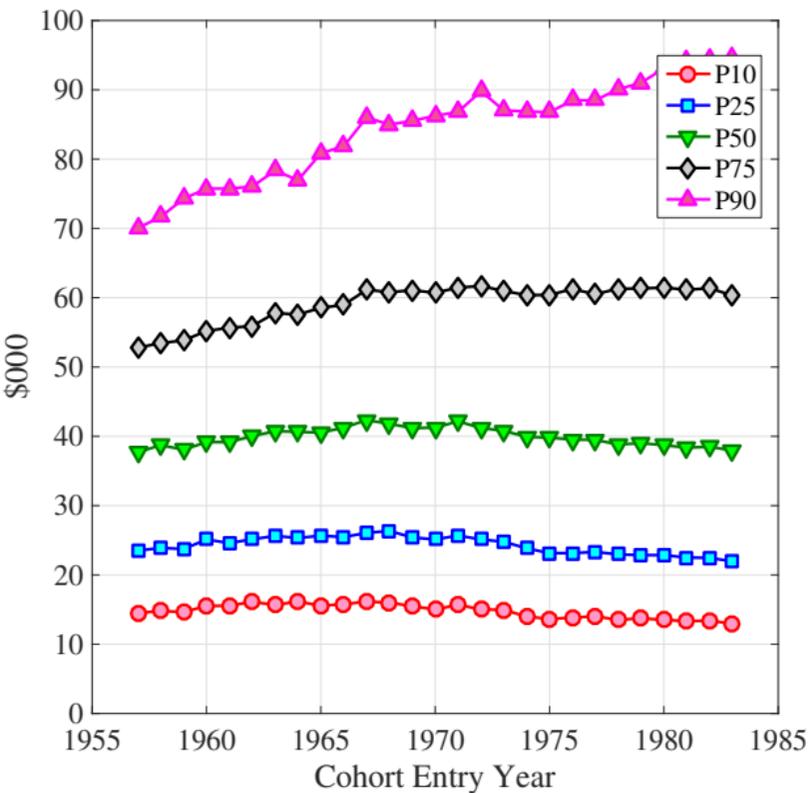


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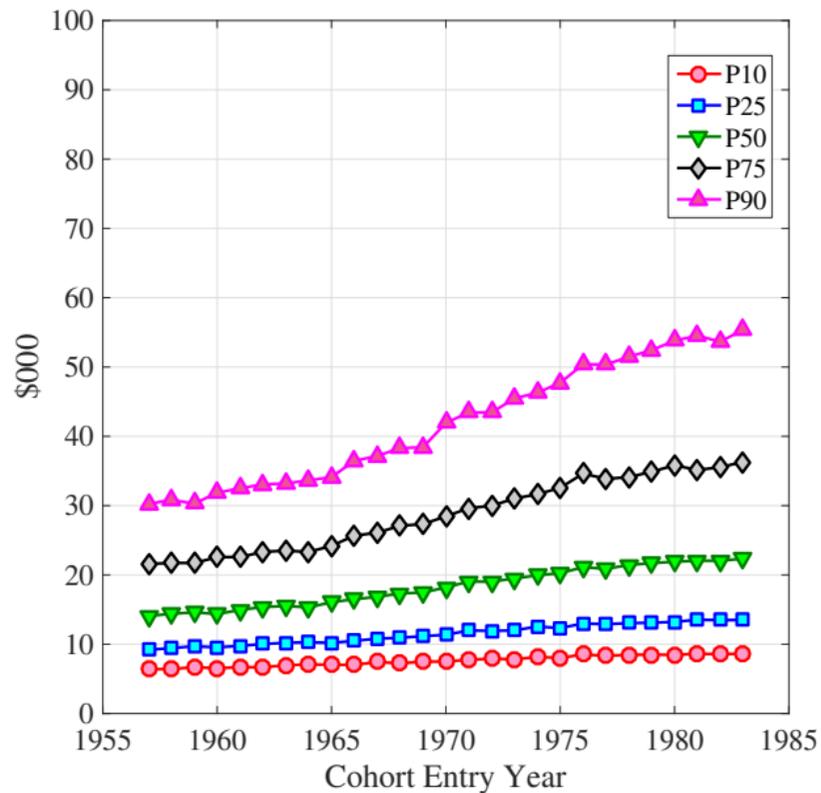
(Source: CBPP 2018)

Real family income between 1947 and 2016, as a percentage of 1973 level





(a) Males



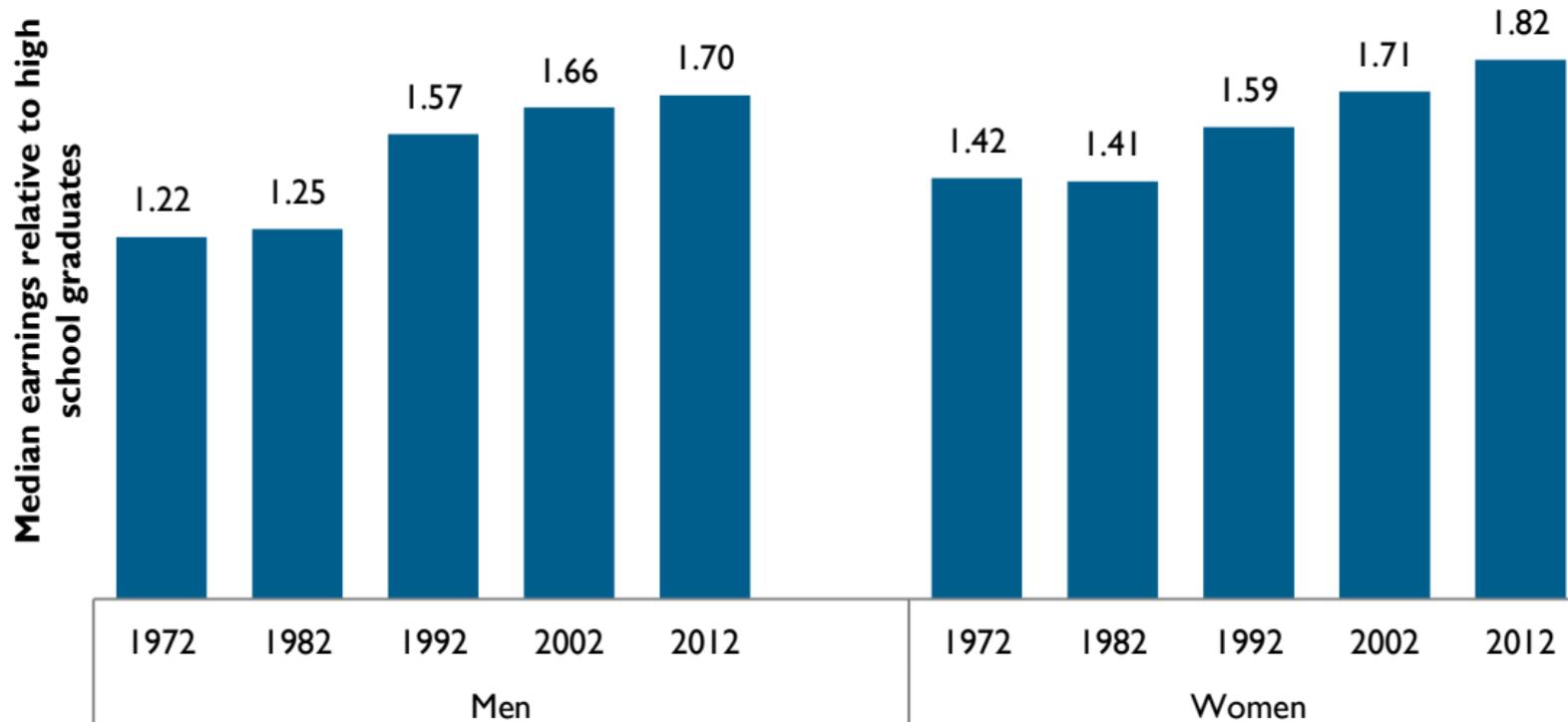
(b) Females

Figure 3: Selected Percentiles of Lifetime Income, by Cohort and Gender (Güvenen et al. 2017)

## Facts 2: Human Capital and inequality

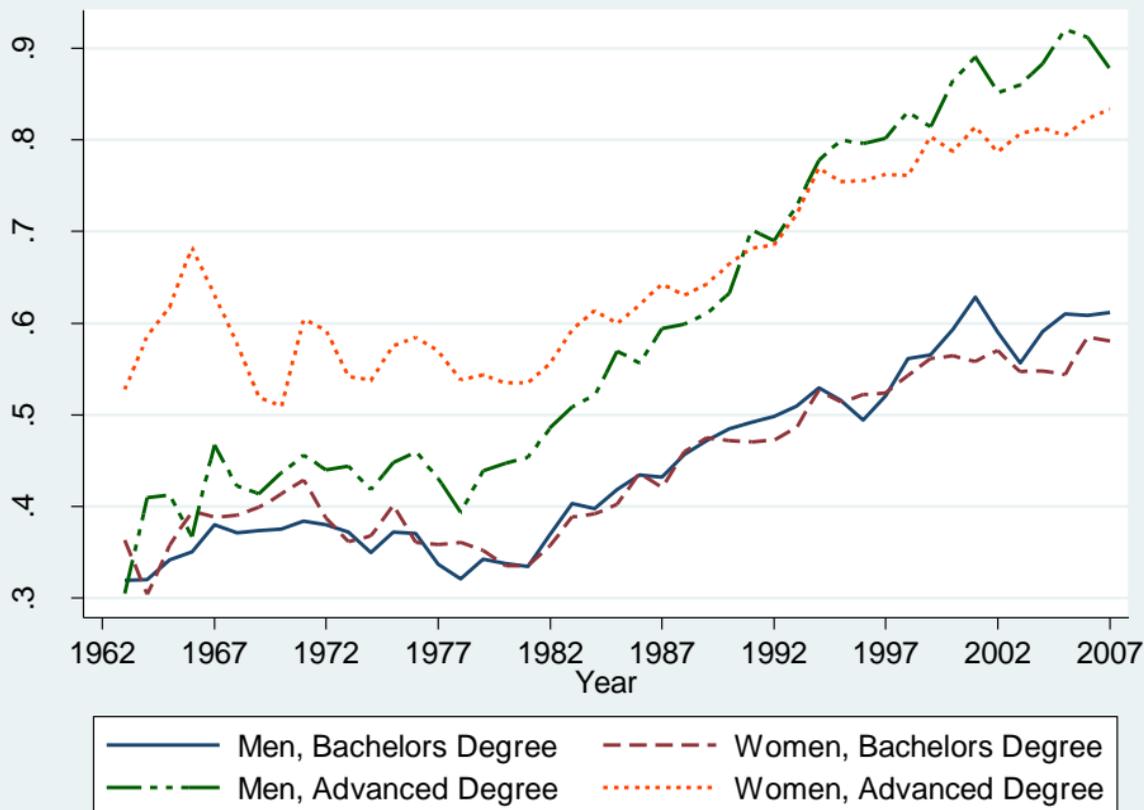
- **The college premium**
- Social mobility
- Life expectancy
- Children development

Figure 4. Median Earnings of Full-Time Year-Round Workers Ages 25–34 with at Least a Bachelor's Degree Relative to High School Graduates, 1972–2012, Selected Years



Sources: NCES 2004, table I4-1; US Census Bureau (1995–2010, 2011b–2012, and 2013d); Baum 2014.

FIGURE 7B: BACHELOR'S DEGREE AND ADVANCED DEGREE WAGE PREMIUMS IN THE UNITED STATES, BY SEX



Source: See Figure 2.

# Present discounted value of college relative to high school degree net of tuition, 1965–2008

College/high school difference, 2009 dollars

600,000 dollars

500,000

400,000

300,000

200,000

100,000

0

1965

1970

1975

1980

1985

1990

1995

2000

2005

2010

**213K**

**129K**

368K

198K

261K

138K

385K

225K

439K

284K

582K

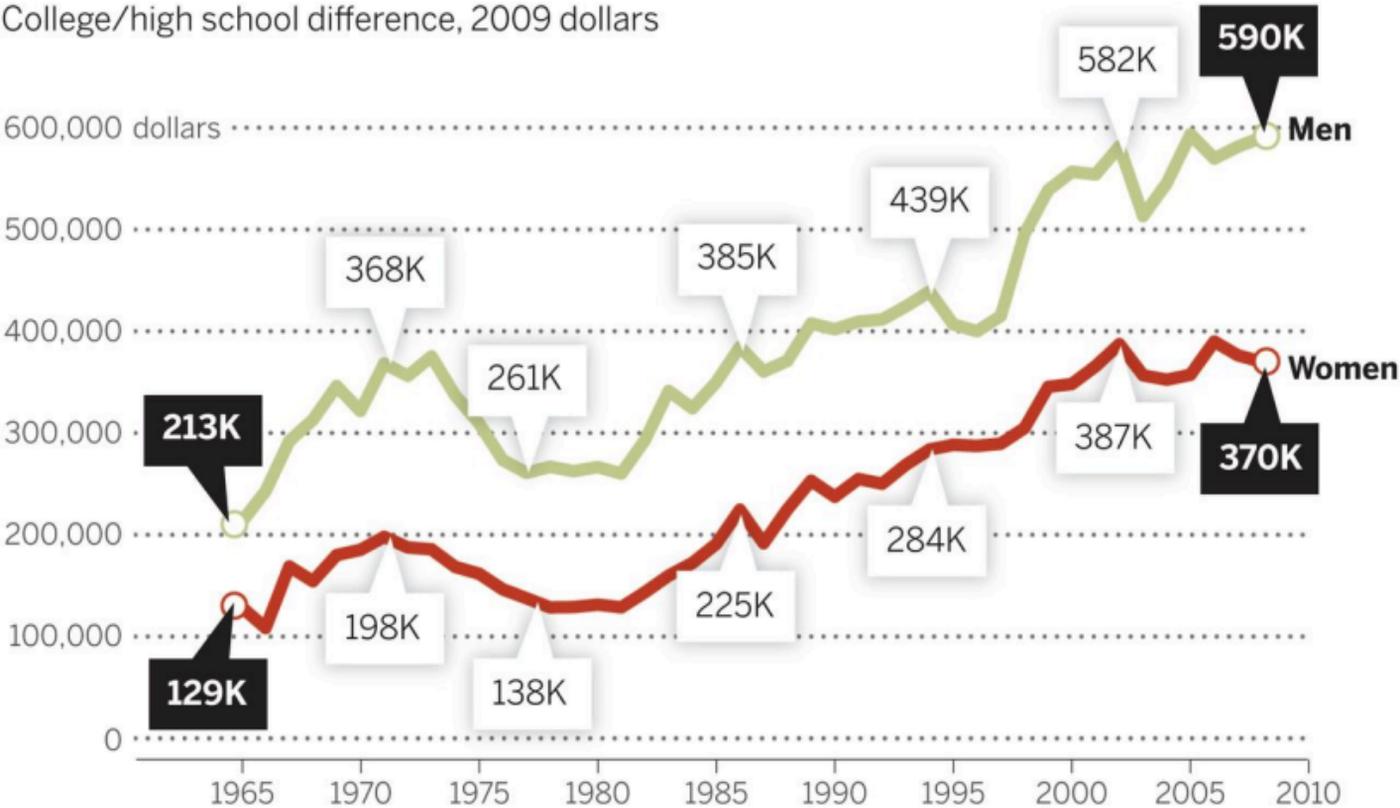
387K

**590K**

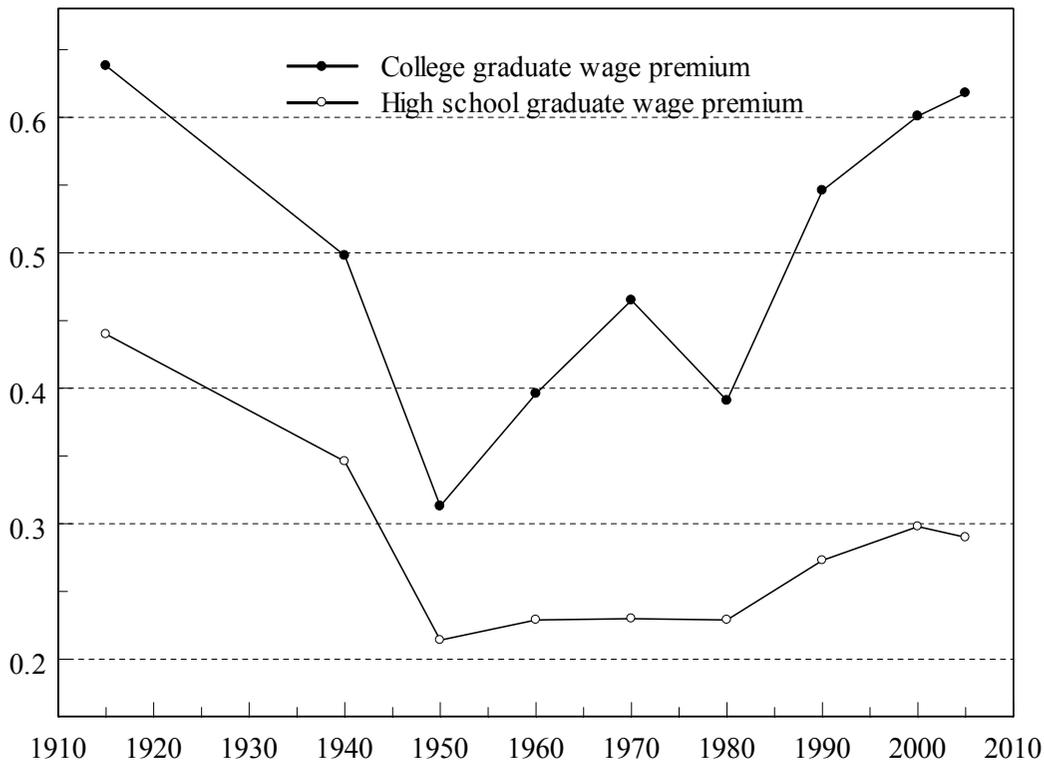
**370K**

Men

Women

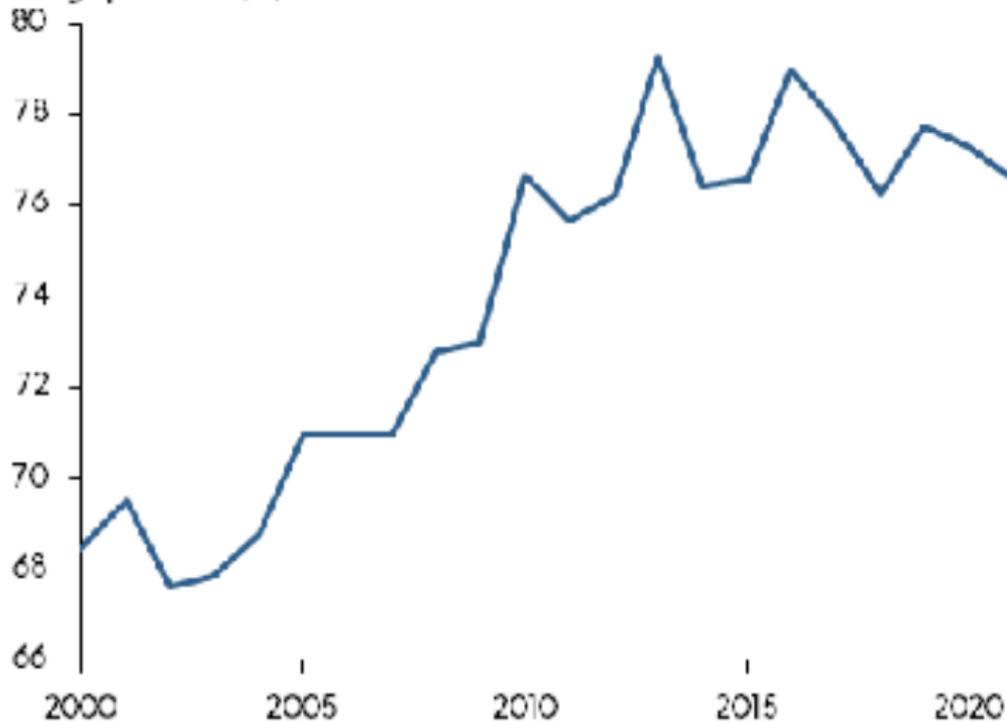


## College Graduate and High School Graduate Wage Premiums: 1915 to 2005



*Sources and Notes:* "THE RACE BETWEEN EDUCATION AND TECHNOLOGY: THE EVOLUTION OF U.S. EDUCATIONAL WAGE DIFFERENTIALS, 1890 TO 2005", Claudia Goldin & Lawrence F. Katz, NBER Working Paper 12984, <http://www.nber.org/papers/w12984>

Wage premium (%)



## Facts 2: Human Capital and inequality

- The college premium
- **Social mobility**
- Life expectancy
- Children development

Generational earnings elasticity  
(higher values imply lower mobility)

0.5  
0.4  
0.3  
0.2  
0.1

20 25 30 35

Income inequality (more inequality →)

0.55 0.56 0.57 0.58 0.59 0.60 0.61 0.62 0.63 0.64 0.65 0.66 0.67 0.68 0.69 0.70 0.71 0.72 0.73 0.74 0.75 0.76 0.77 0.78 0.79 0.80 0.81 0.82 0.83 0.84 0.85 0.86 0.87 0.88 0.89 0.90 0.91 0.92 0.93 0.94 0.95 0.96 0.97 0.98 0.99 1.00

A

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Figure 6 : espérance de vie à la naissance, pays développés

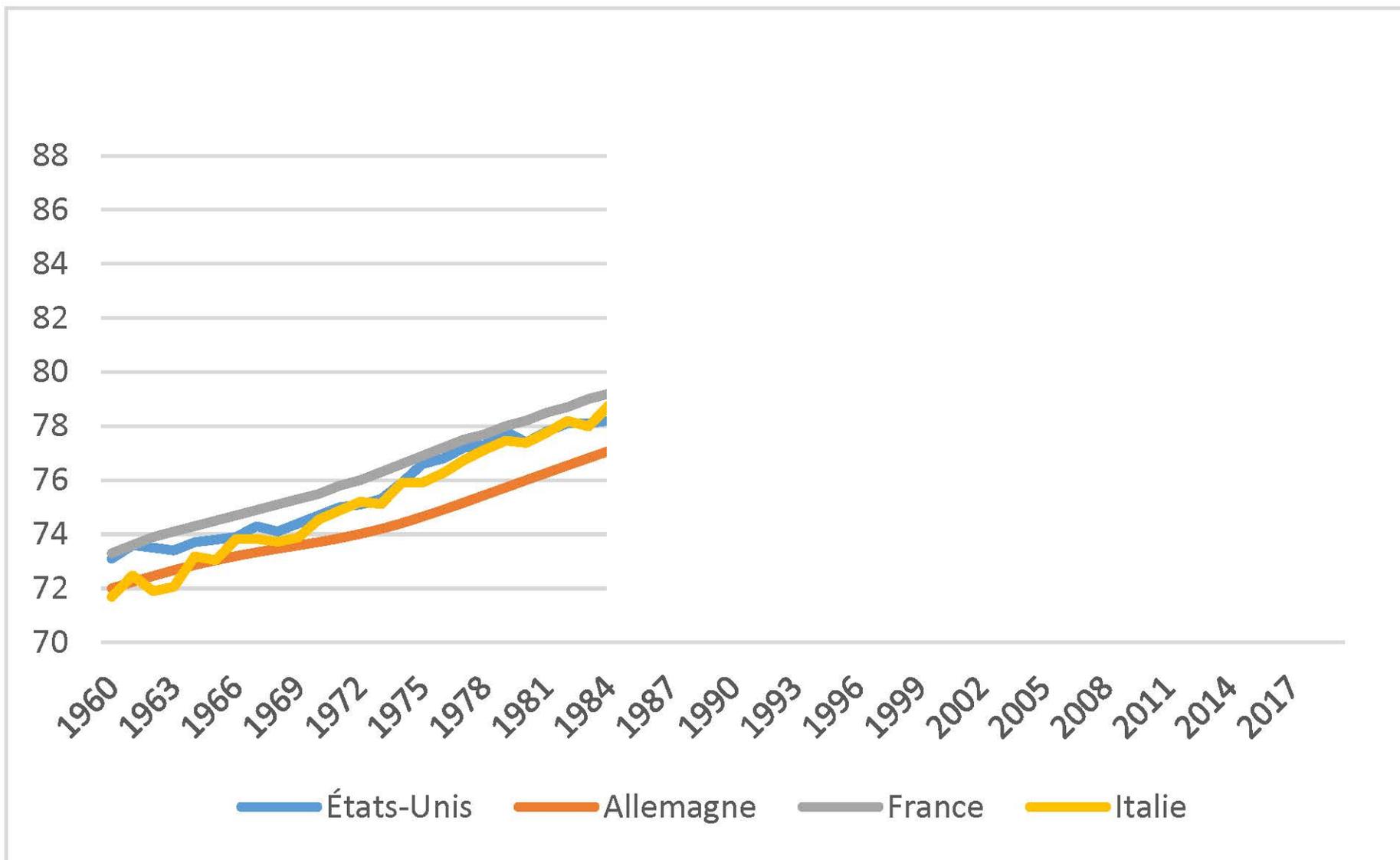
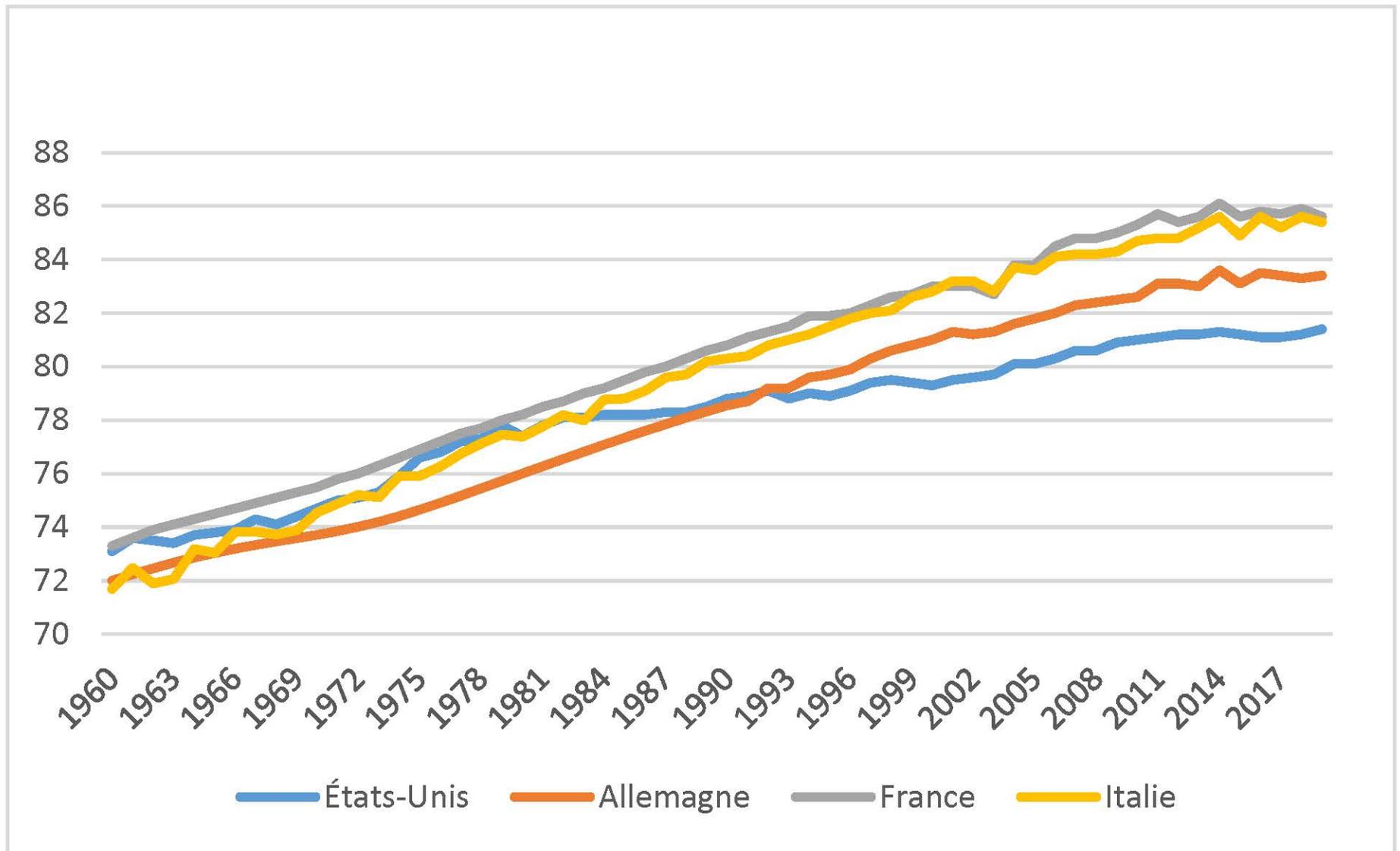
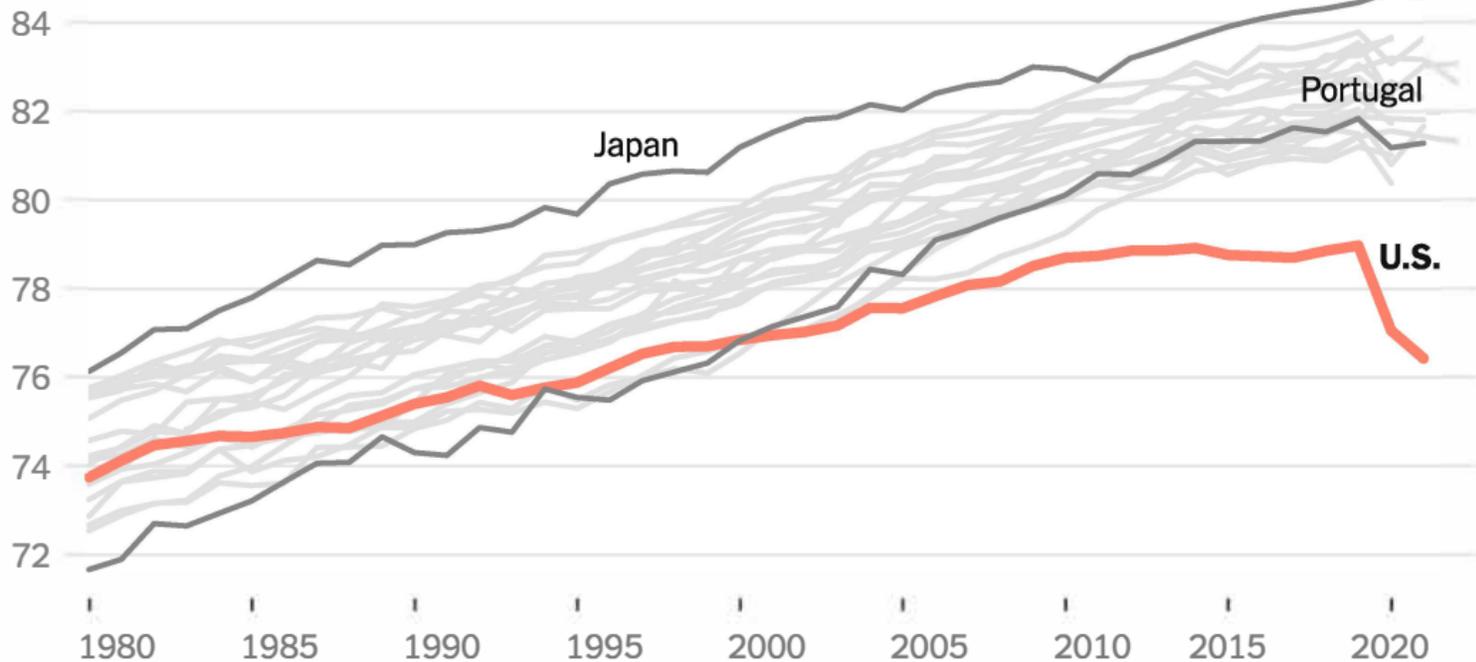


Figure 6 : espérance de vie à la naissance, pays développés



# Life expectancy in the United States falls behind other rich countries

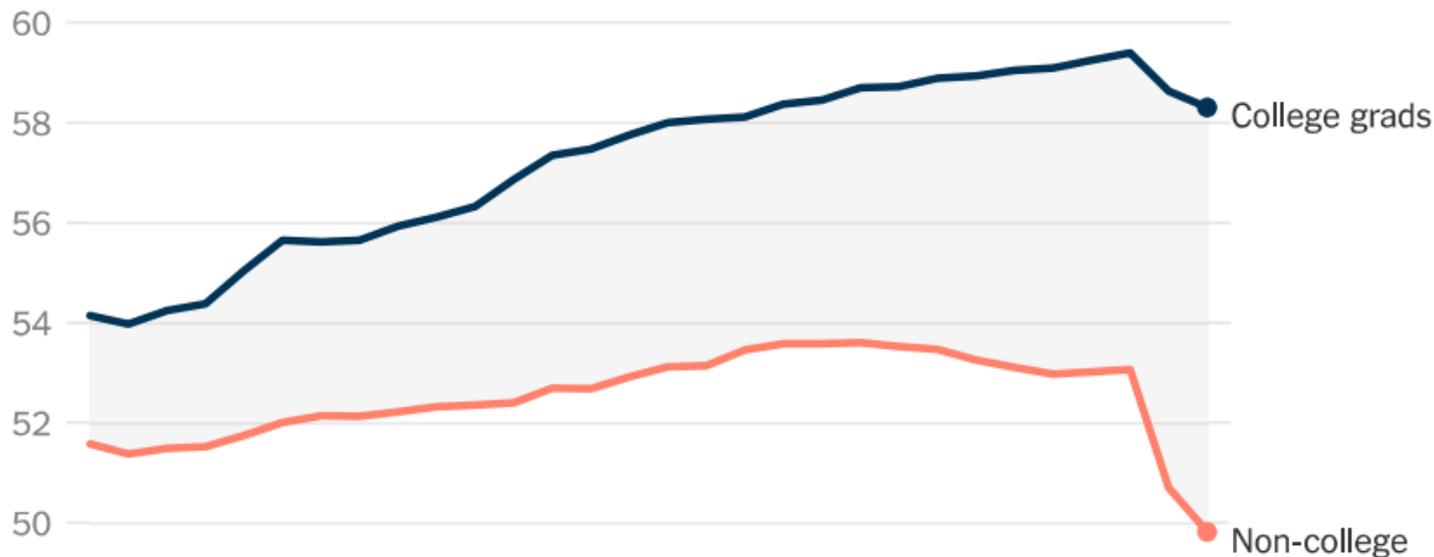
Life expectancy at birth



Source: Anne Case and Angus Deaton, Princeton University

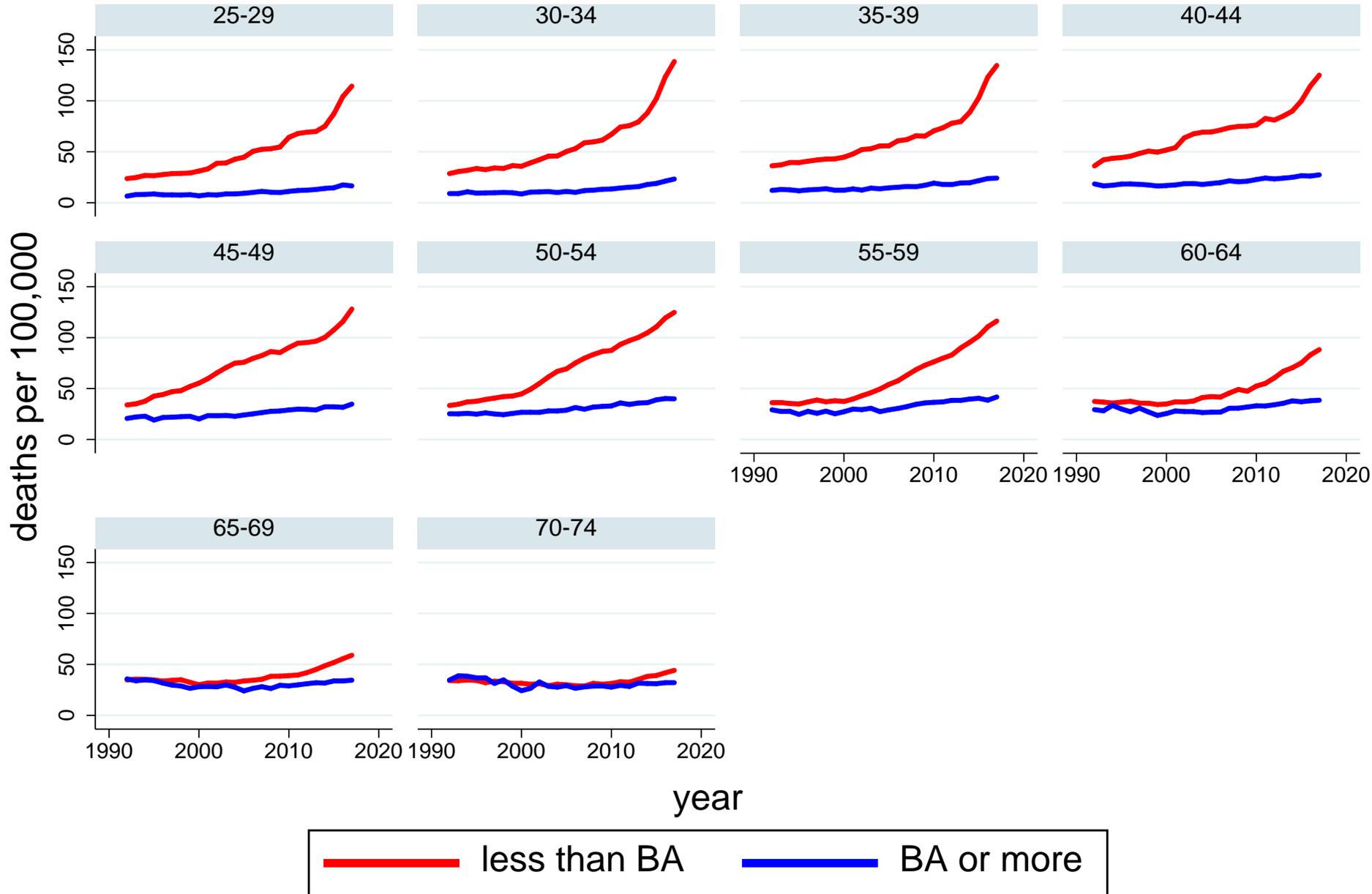
# The mortality gap between Americans with and without four-year degrees is widening

Average years of life remaining for 25-year-old Americans



Source: Anne Case and Angus Deaton, Princeton University • By The New York Times

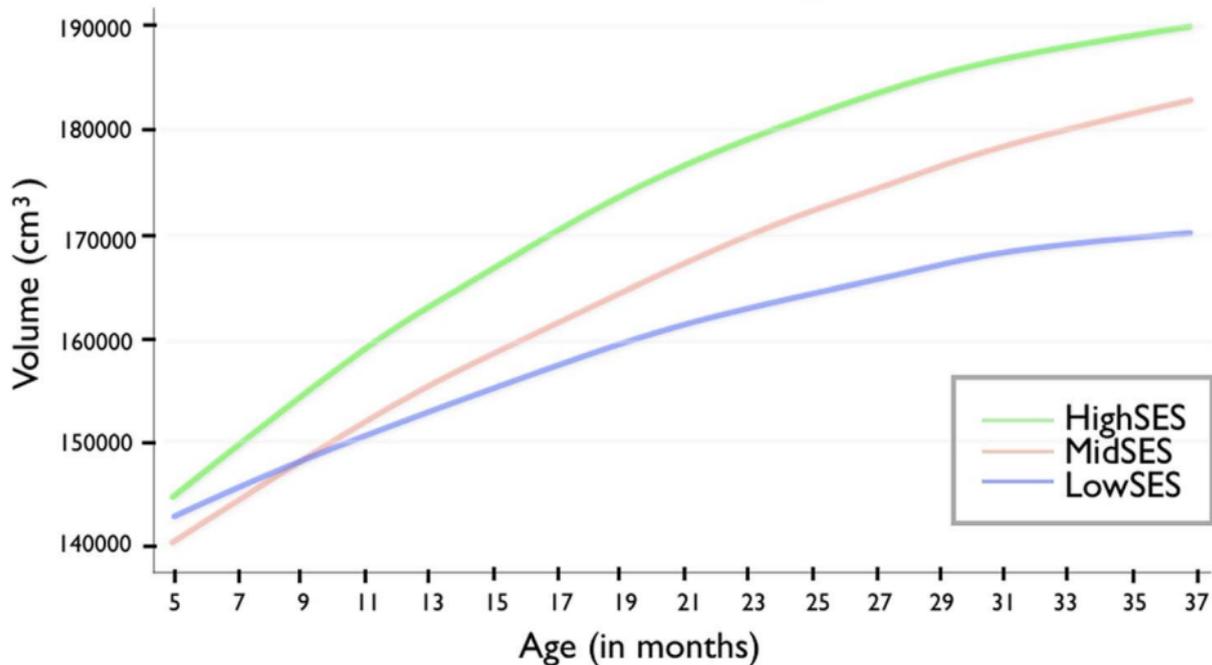
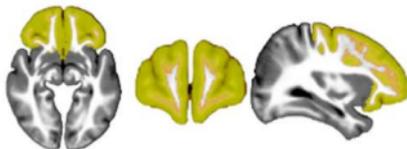
# Drug alcohol and suicide mortality, white non-Hispanics 1992-2017



## Facts 2: Human Capital and inequality

- The college premium
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# Frontal Gray Matter

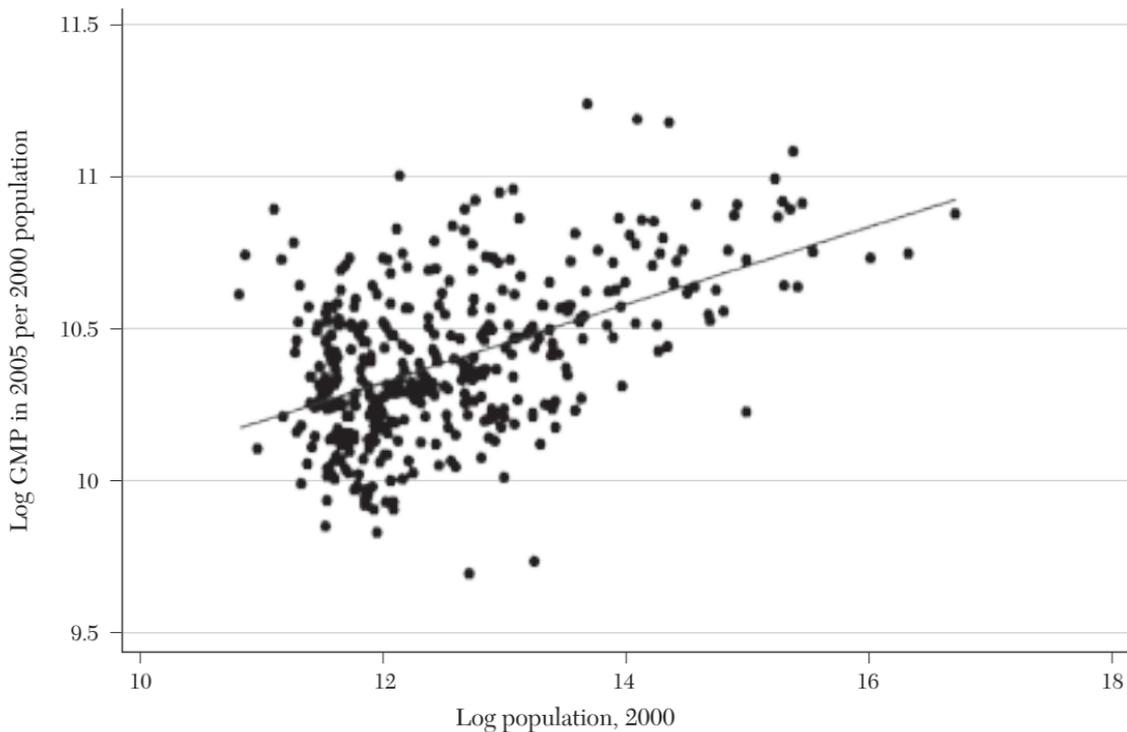


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## Facts 3: Human Capital, urbanization and growth

- **Urbanization and productivity**
- Urbanization and skilled labor
- Political preferences

Source: Glaeser and Gottlieb, 'The Wealth of Cities', Journal of Economic Literature 2009, 47:4, 983–1028



*Figure 1. Productivity and City Size*

*Notes:* Units of observation are Metropolitan Statistical Areas under the 2006 definitions. Population is from the Census, as described in the Data Appendix. Gross Metropolitan Product is from the Bureau of Economic Analysis.

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Figure 9: College Degree vs. High School Dropout Share of Working Age Adults, 1970 - 2015

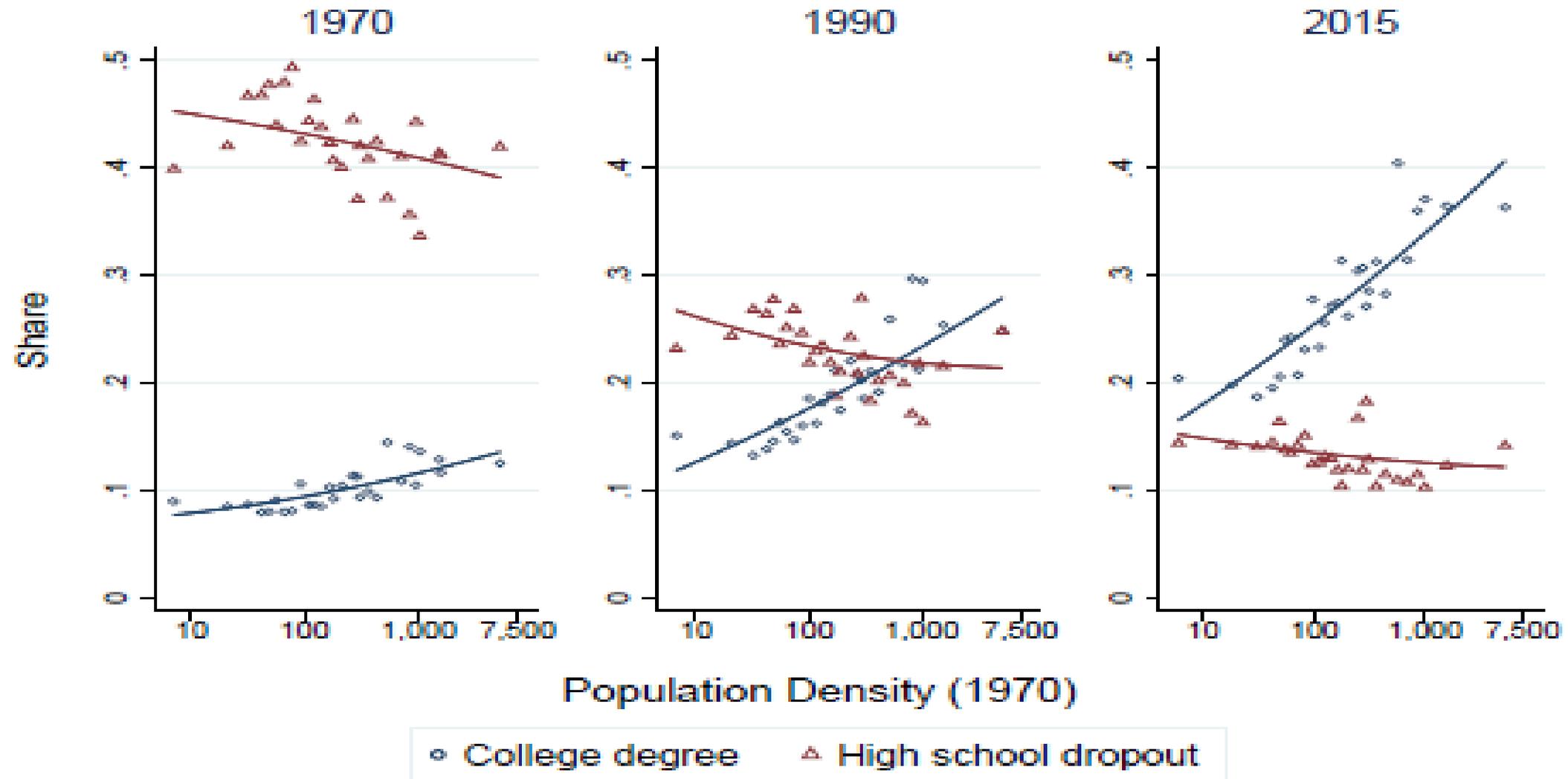


Figure plots the share of working-age adult residents by CZ who have either four-plus years of college or less than a high school degree. Source: U.S. Census of Population data for 1970 and 1990 and pooled American Community Survey (ACS) data for years 2014 through 2016, sourced from IPUMS Ruggles et al. (2018). Each plotted point represents approximately 5 percent of the working-age population in the relevant year.

Figure 7: Occupational Employment Shares among Working-Age Adults by Commuting Zone Population Density, 1970 – 2015: Level Relative to 1970 Mean

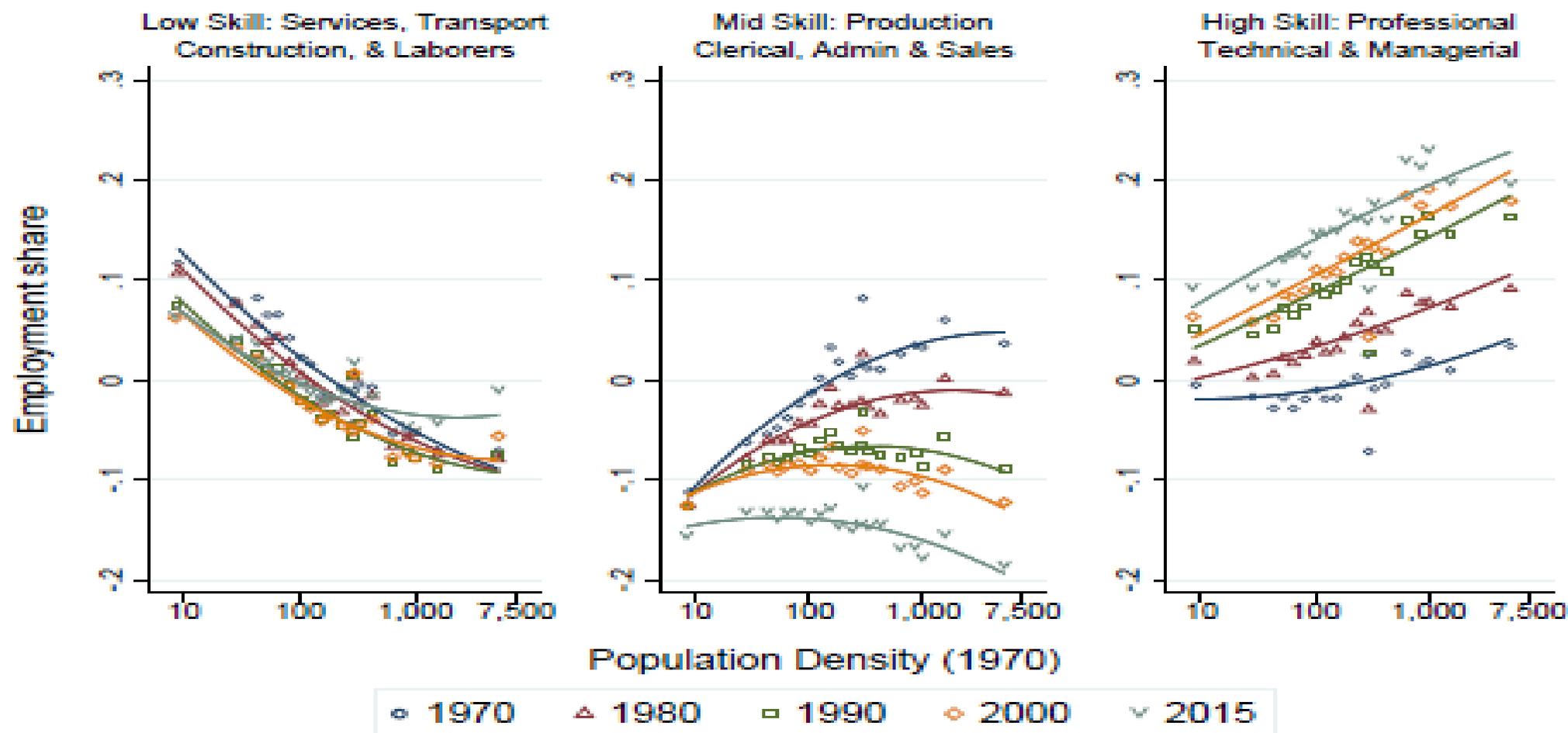
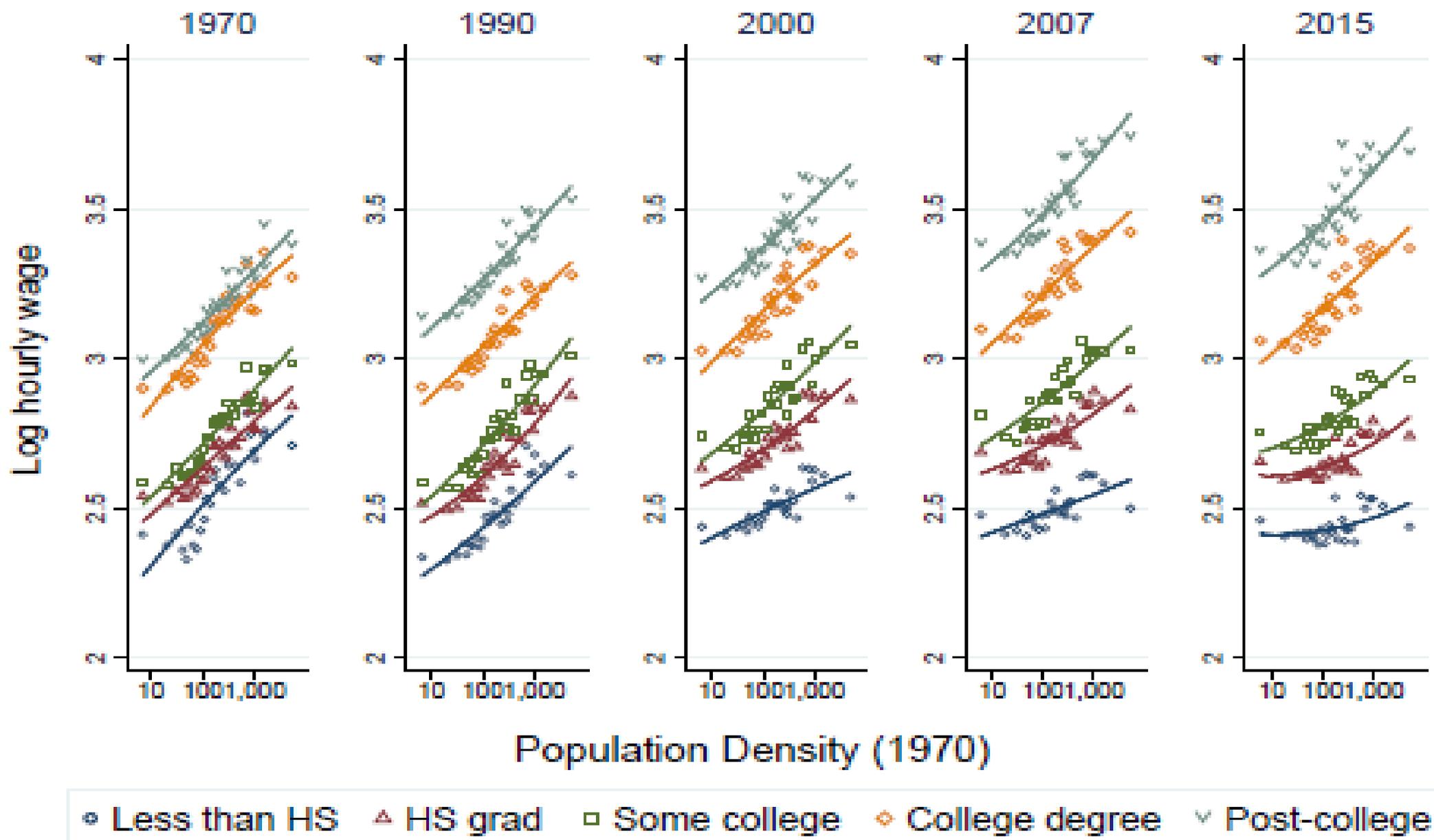


Figure is constructed using U.S. Census of Population data for 1970, 1980, 1990, and 2000, and pooled American Community Survey (ACS) data for years 2014 through 2016, sourced from IPUMS Ruggles et al. (2018). Occupational classifications are harmonized across decades using the classification scheme developed by Dorn (2009) and distilled to the level of 722 consistent local labor markets (AKA, Commuting Zones) following the procedures in Autor and Dorn (2013). Each plotted point represents approximately 5 percent of the working-age population in the relevant year.

Figure 15: Real Log Hourly Wages by Detailed Education Category, 1970 - 2015

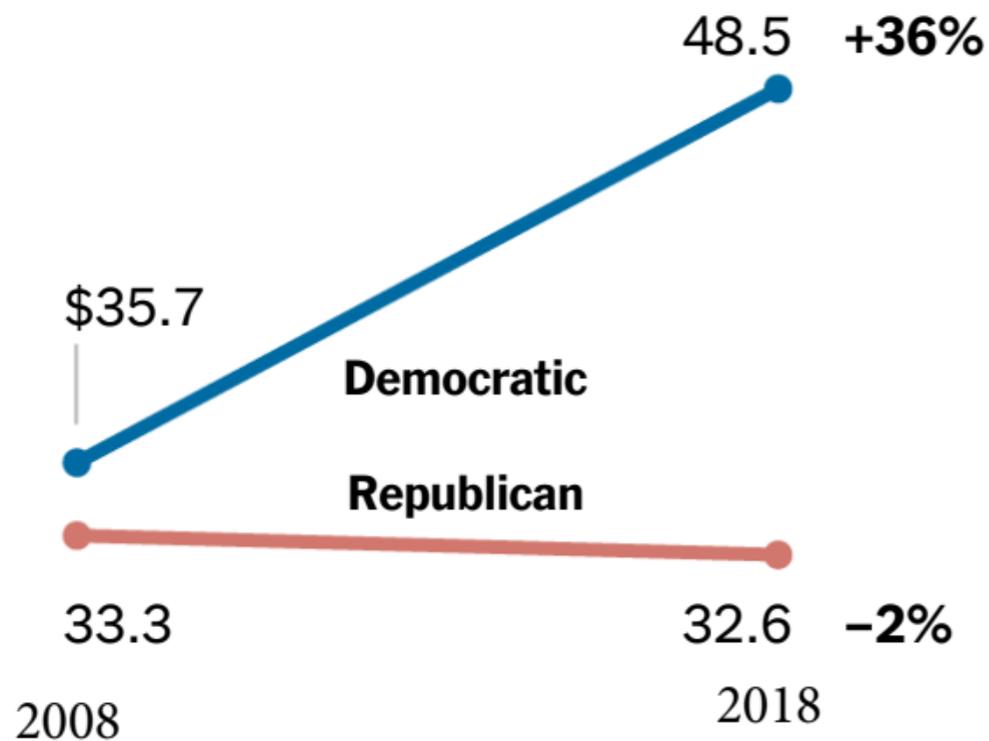


## Facts 3: Human Capital, urbanization and growth

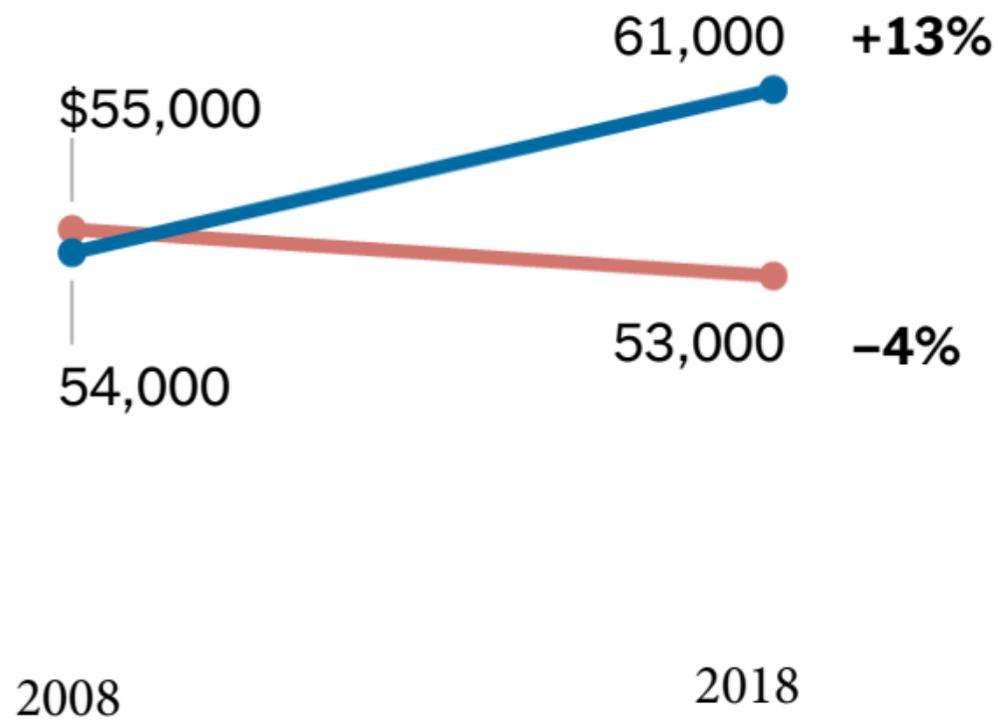
- Urbanization and productivity
- Urbanization and skilled labor
- **Political preferences**

## G.D.P. PER DISTRICT

In billions.



## MEDIAN HOUSEHOLD INCOME PER DISTRICT



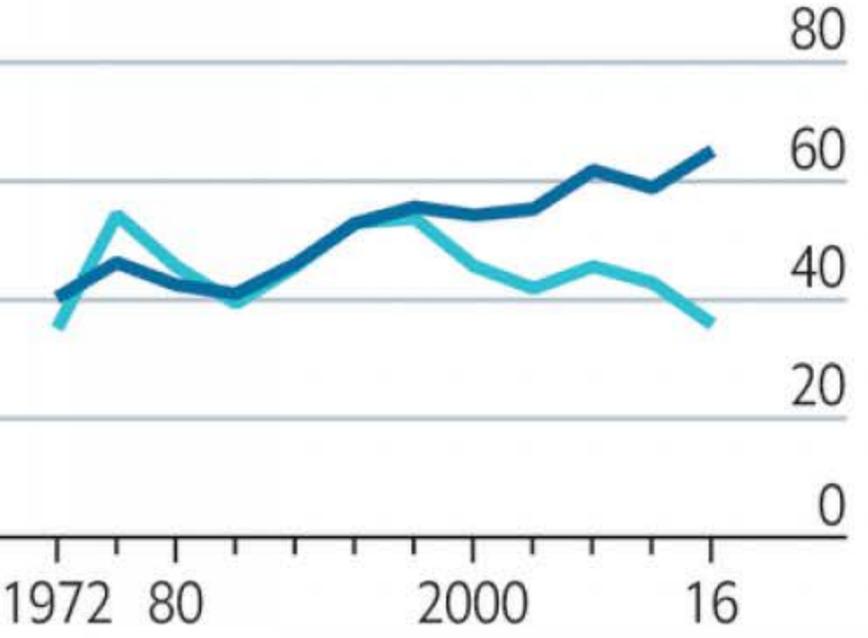
Source: Brookings

# A matter of degrees

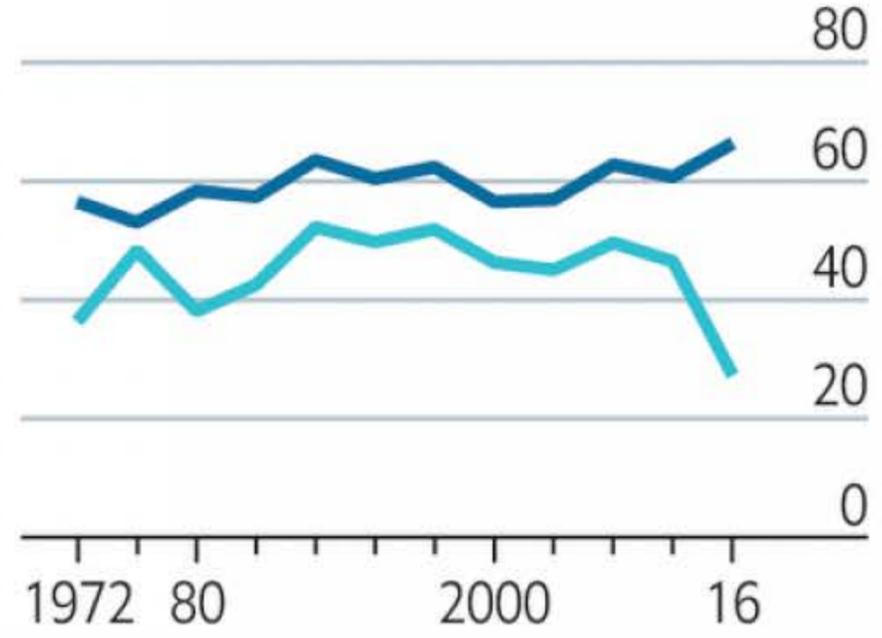
United States, Democratic presidential vote share, %  
By county-level educational attainment

High-education counties  
Low-education counties

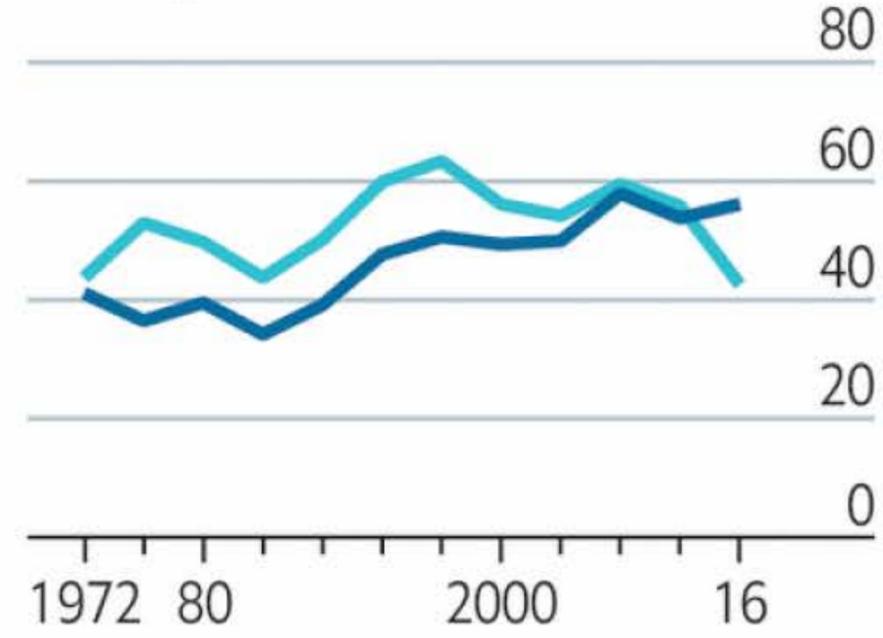
United States



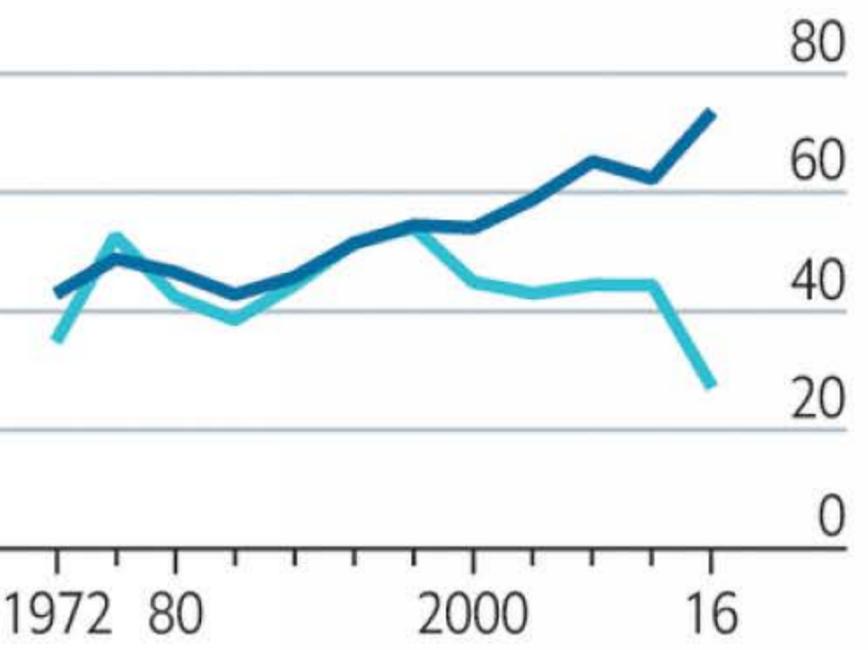
Iowa



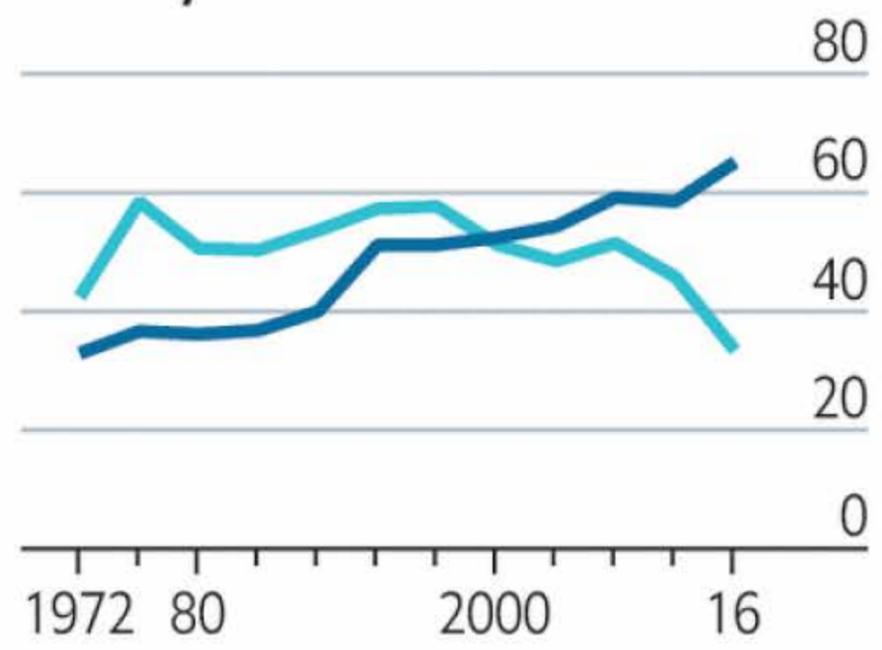
Michigan



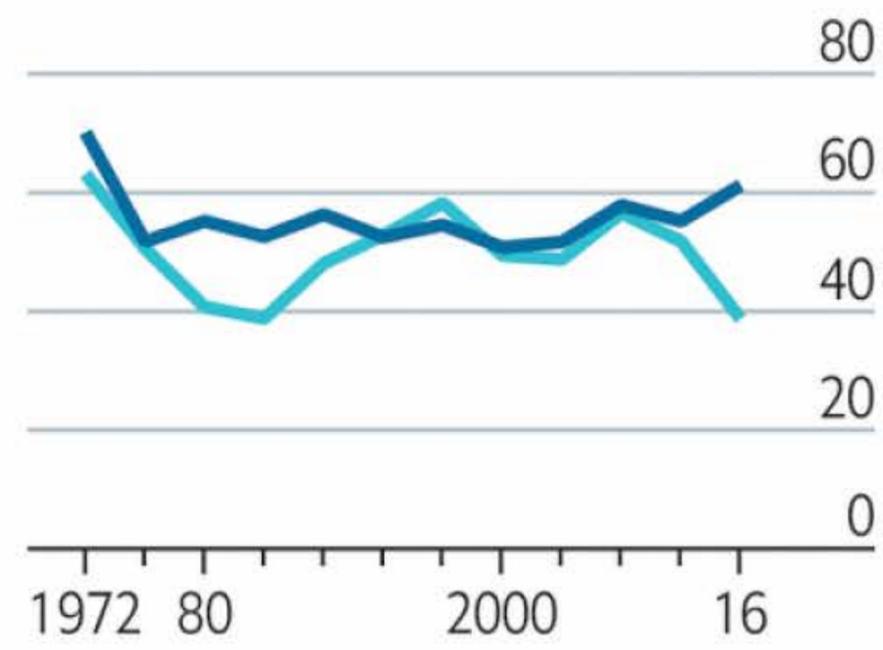
Ohio



Pennsylvania



Wisconsin



Source: "How Unusual Was 2016? Flipping Counties, Flipping Voters, and the Education-Party Correlation since 1952",  
by Michael W. Sances, 2019, *Perspective on Politics*

# Inequality and HC: some facts

- Facts 1: from the 'glorious three' to the 80s diffraction
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- **Facts 4: Human Capital: demand, supply and gender**
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# Facts 4: Human Capital: Demand

- Determinants:
  - Technical progress
  - International trade
  - Others (unions,...)

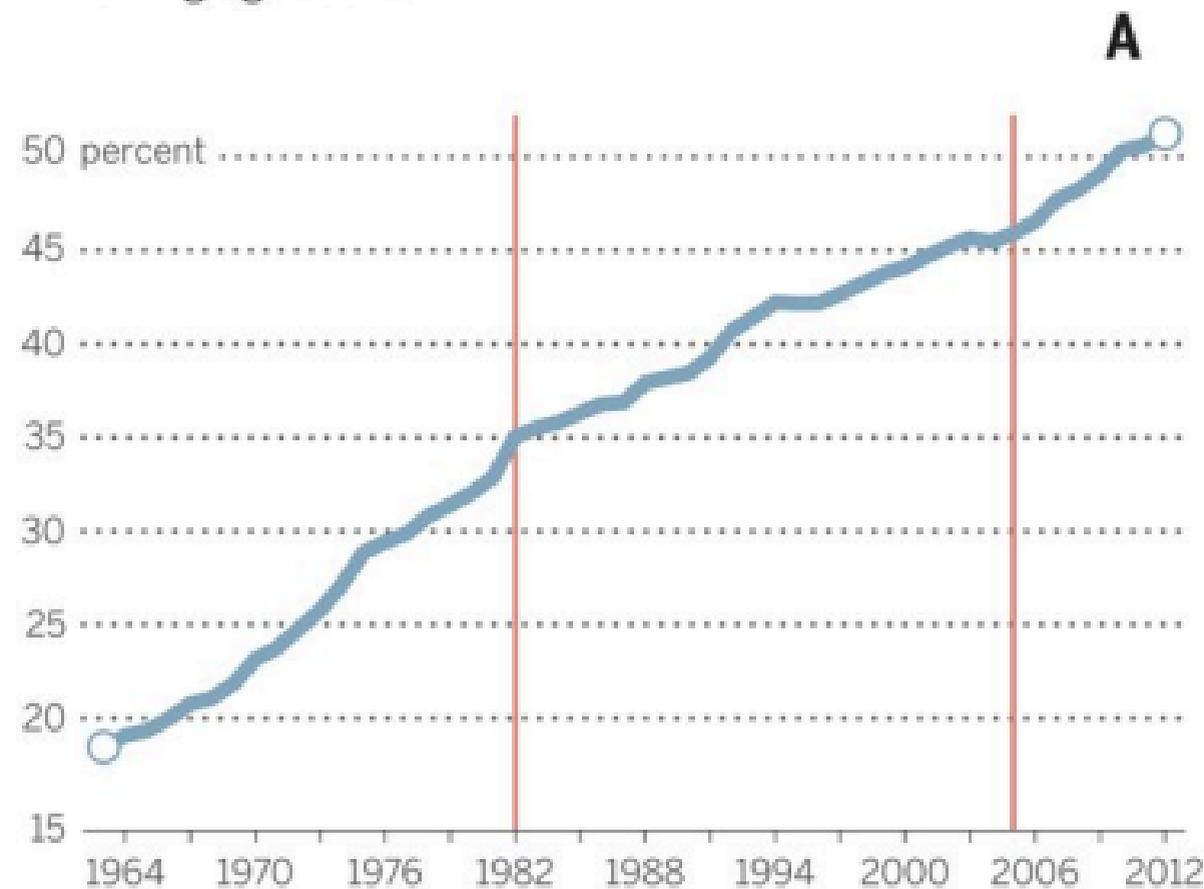
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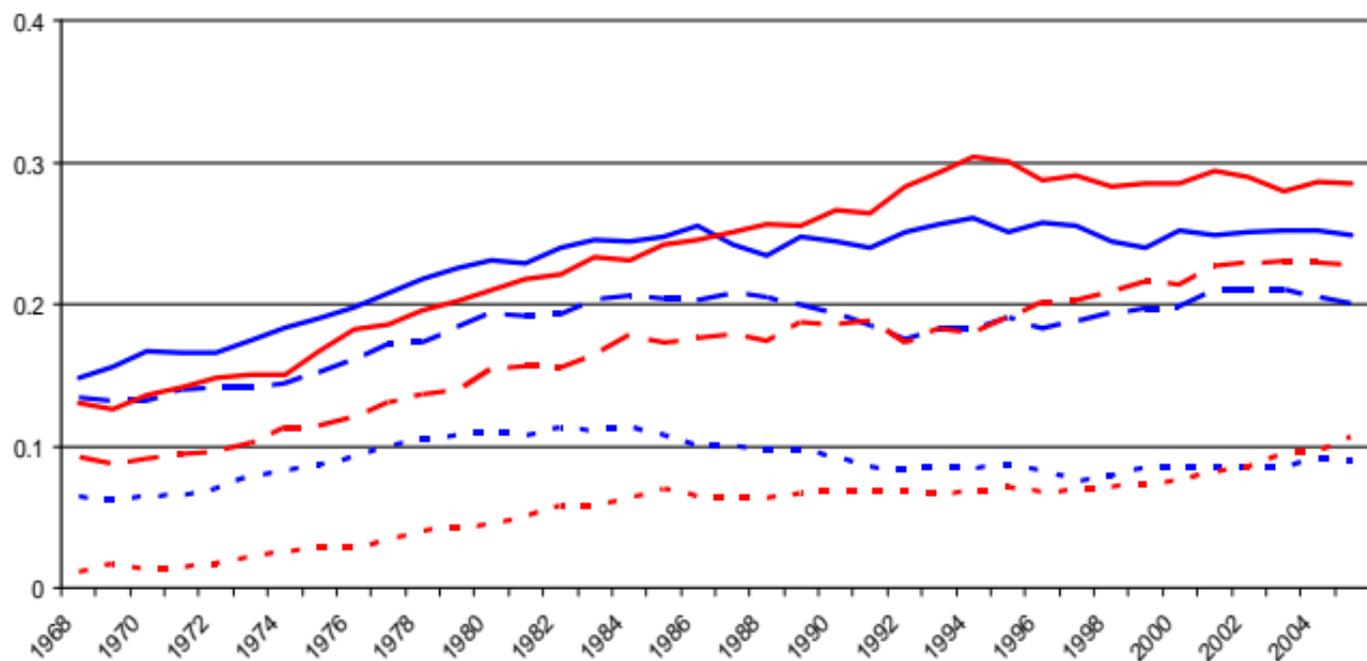


# Facts 4: Human Capital: Demand (Autor 2014)

College share of hours worked (%), 1963–2012:  
All working-age adults

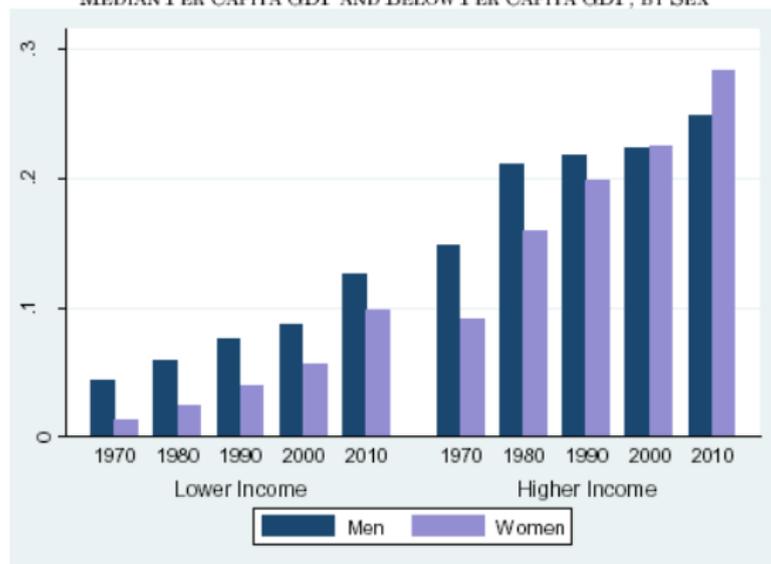


## Facts 4: Human Capital: Supply (US, 1968-2010) ...



— Some college\_male    - - College\_male    ··· MA and PHD\_male  
 — Some college\_female    - - College\_female    ··· MA and PHD\_female

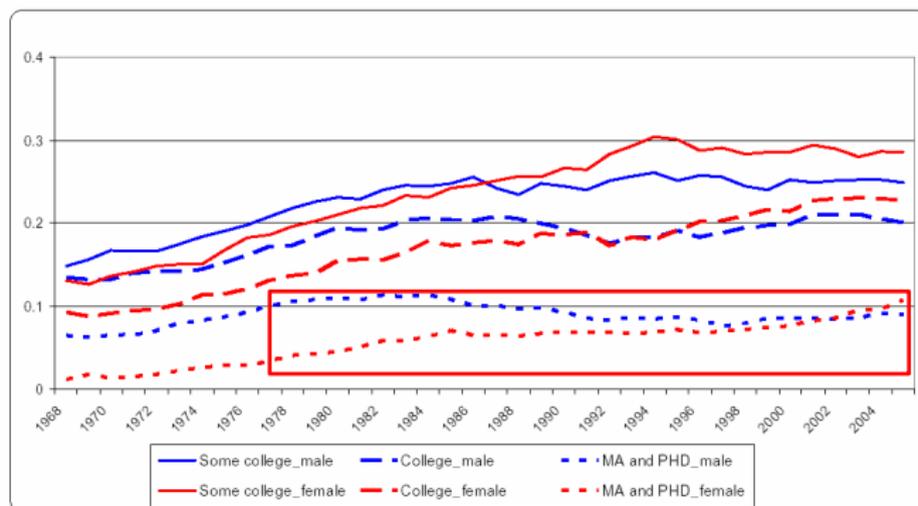
FIGURE 3: FRACTION OF 30- TO 34-YEAR-OLDS WITH COLLEGE EDUCATION, COUNTRIES ABOVE MEDIAN PER CAPITA GDP AND BELOW PER CAPITA GDP, BY SEX



Source: See Figure 1.

# Facts 4: Human Capital: Supply (US, 1968-2010) ...

Figure 13: Completed Education by Sex, Age 30-40, US 1968-2005



Source: Current Population Surveys.

# The US: ... 2010-2022

*% of adults ages 25 to 34 with a bachelor's degree*



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# A few stylized facts

- 1 Women are now more educated than men; + strong preference for homogamy, particularly at the top

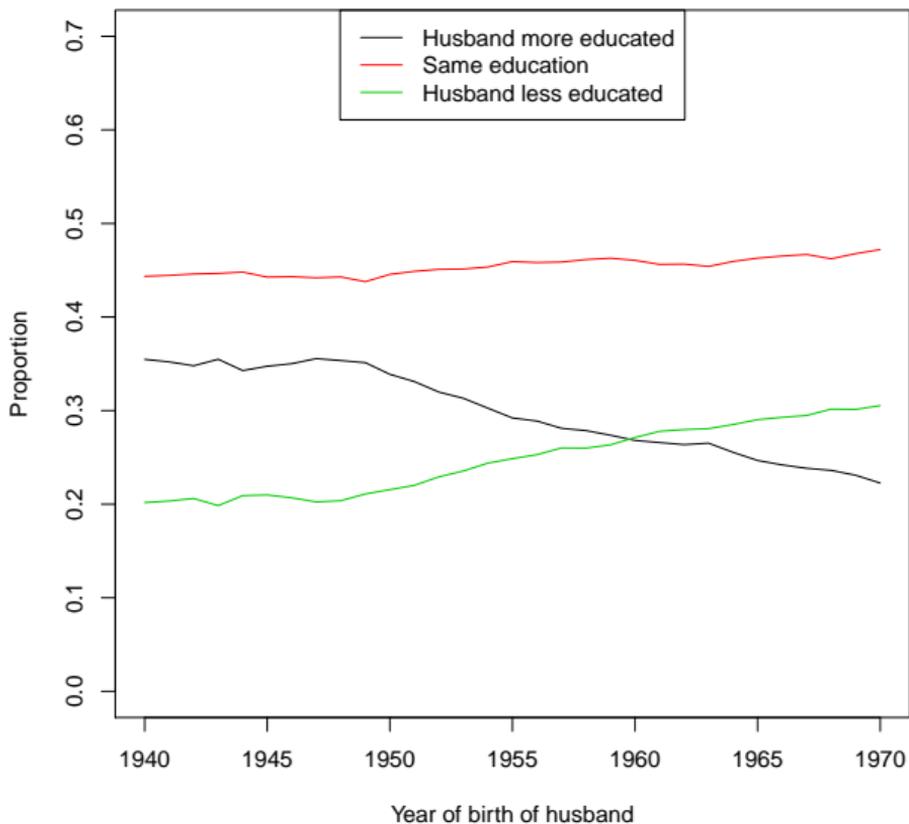


Figure 2: Comparing partners in white couples

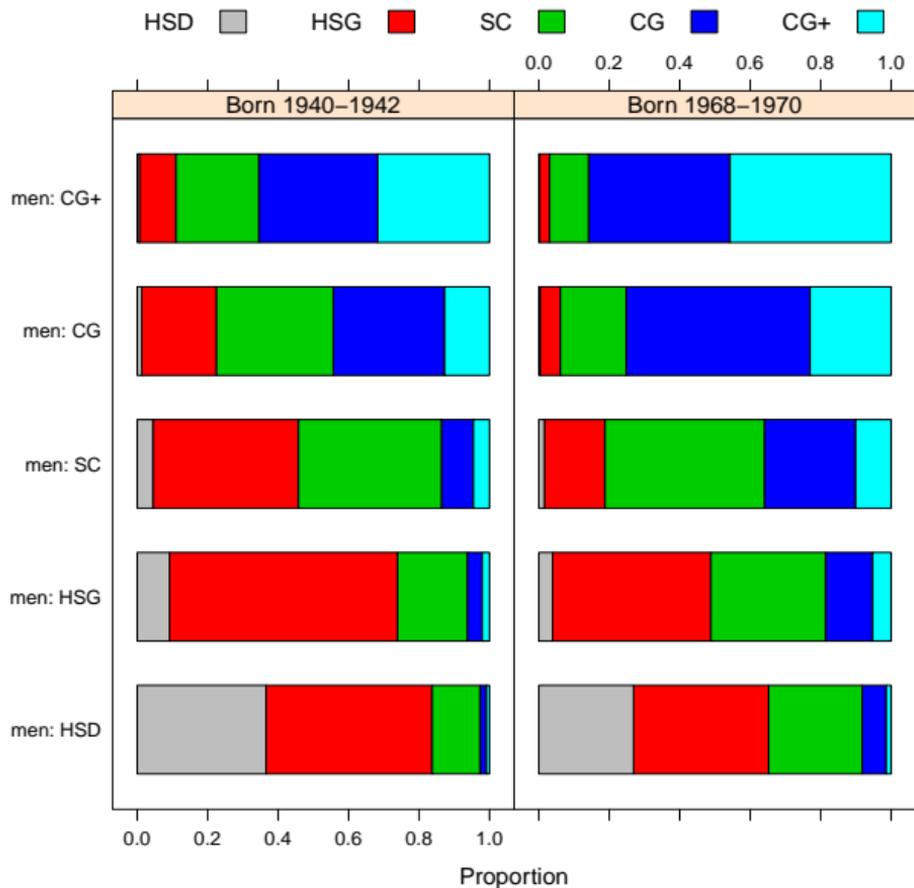


Figure 4: Marriage patterns of white men who marry

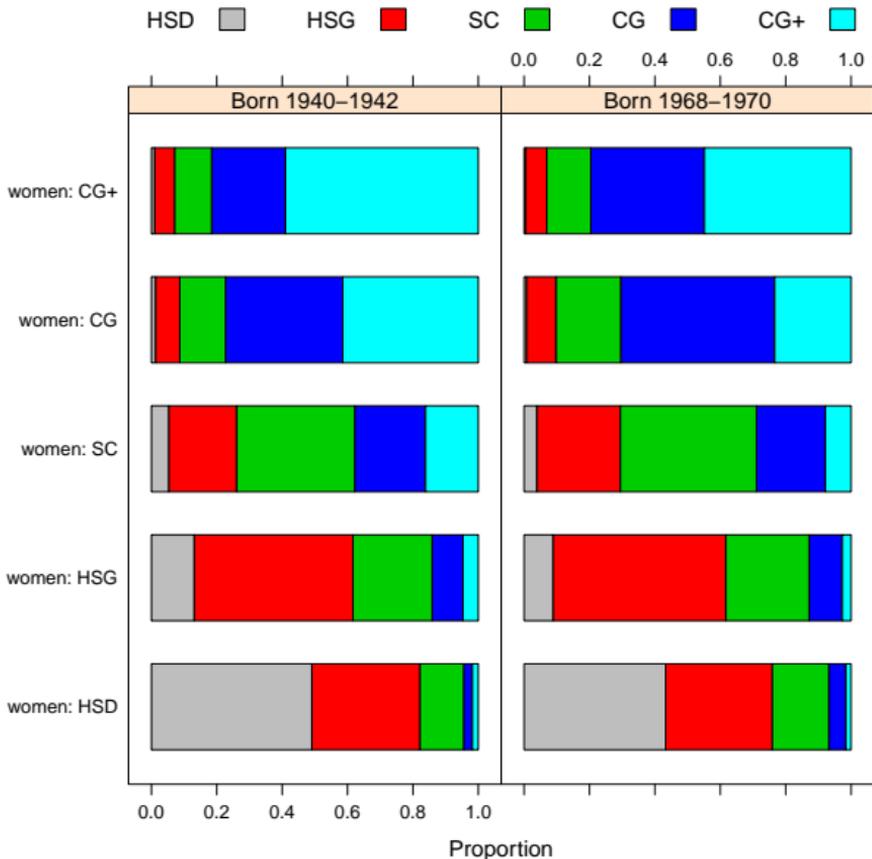
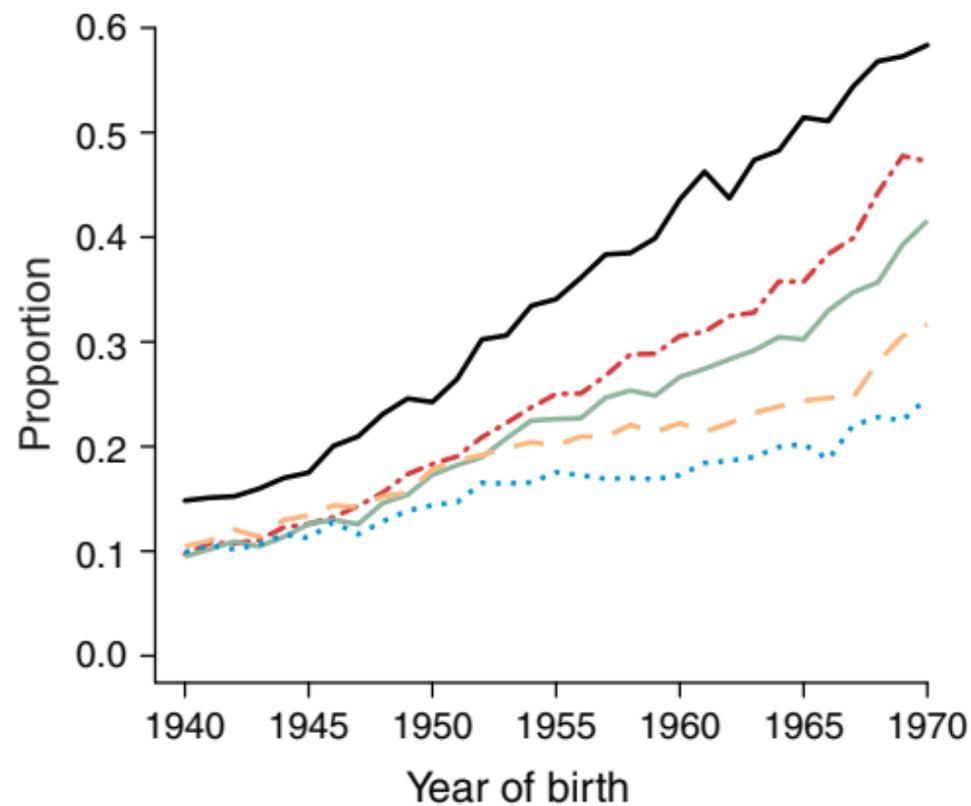


Figure 5: Marriage patterns of white women who marry

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- 2 General decline of marriages, mostly at the bottom

Panel A. Men



Panel B. Women

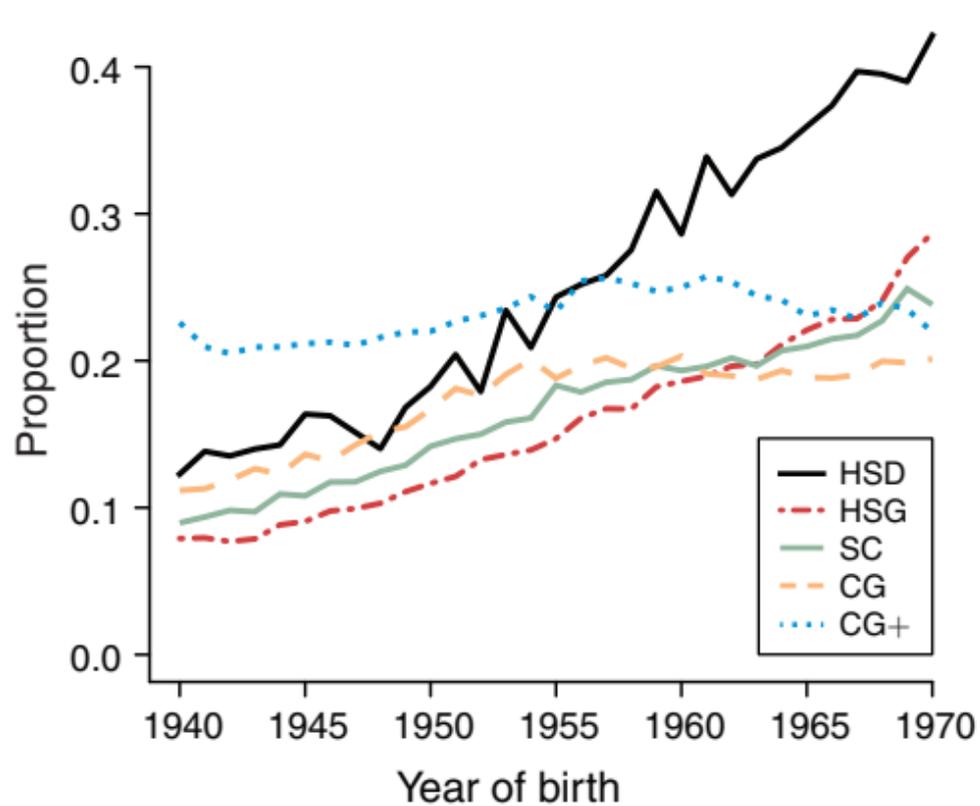


FIGURE 3. NEVER-MARRIED WHITE MEN AND WOMEN

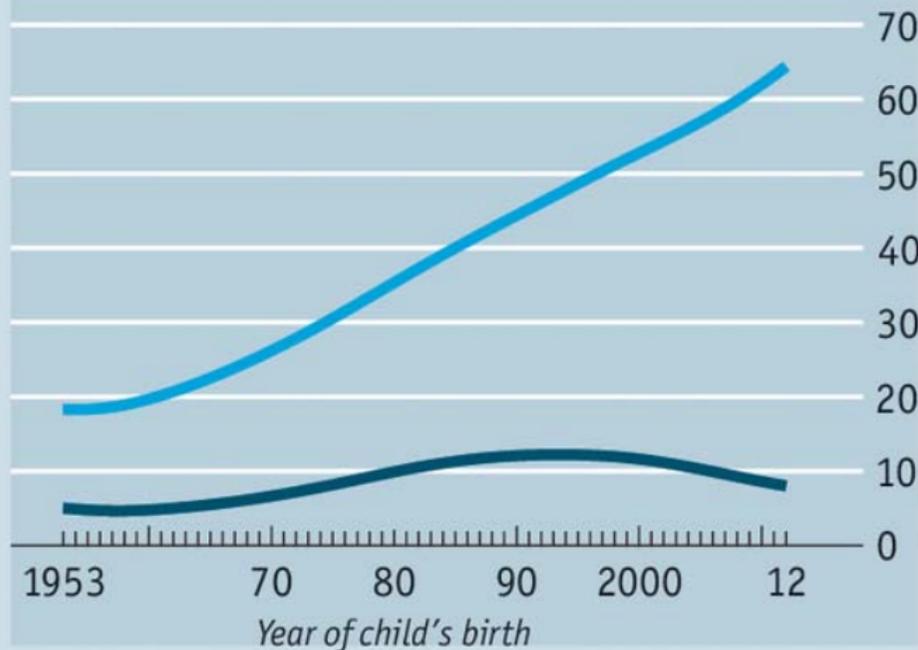
# The new class divide

United States

- Parents with bachelor's degree or better
- Parents with no more than high-school education

## Children aged 0-7 living in a single-parent family

%



Source: 'Our Kids', Robert Putnam

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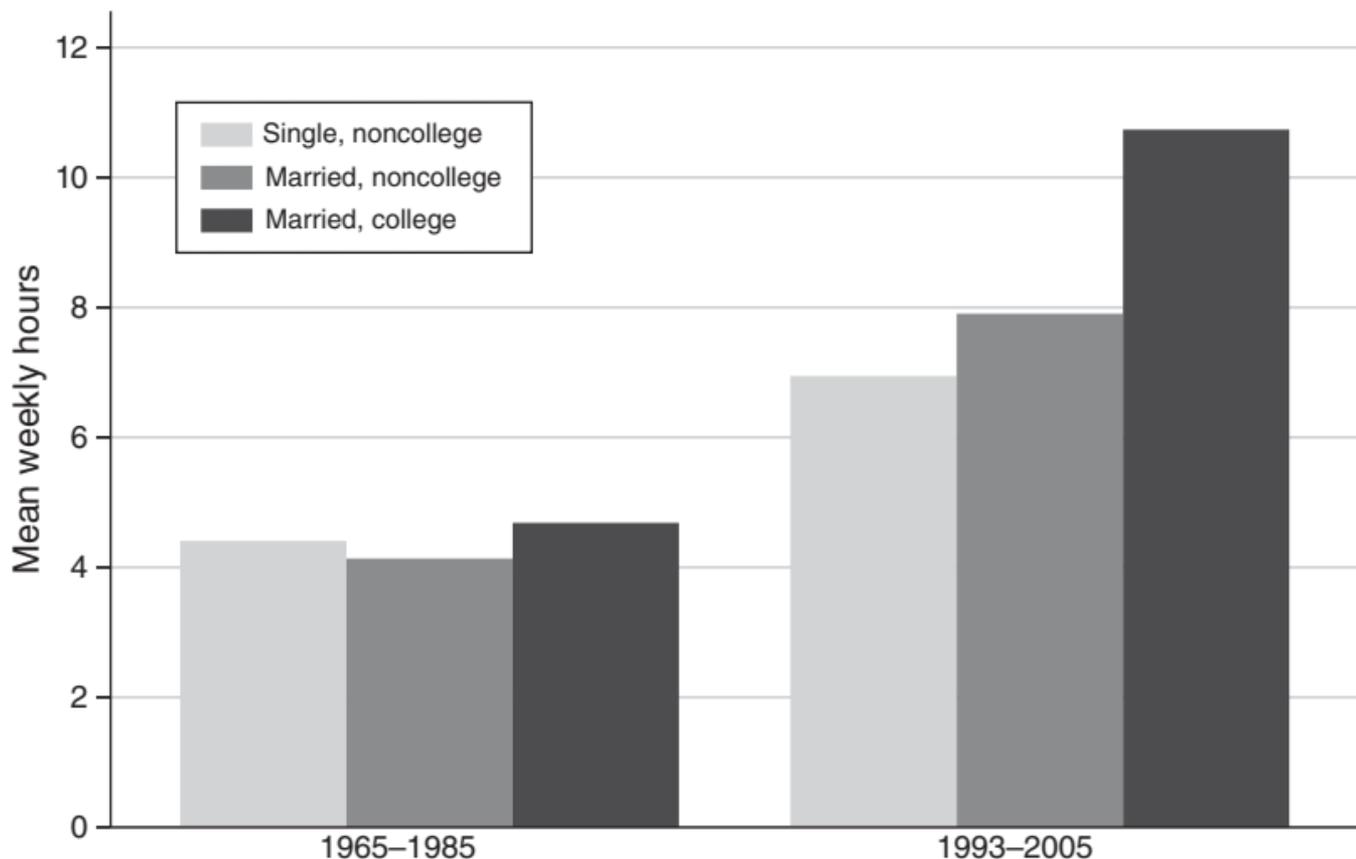
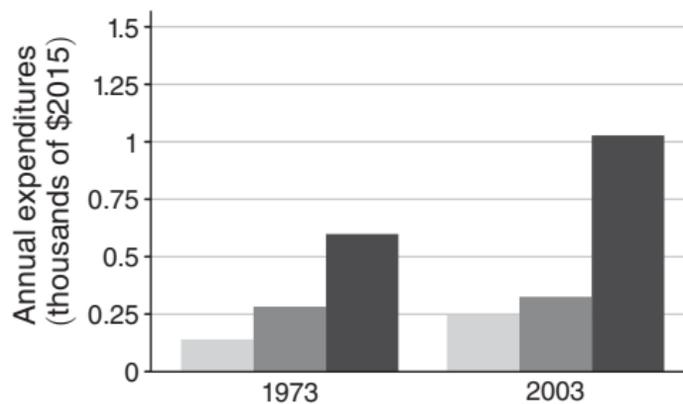


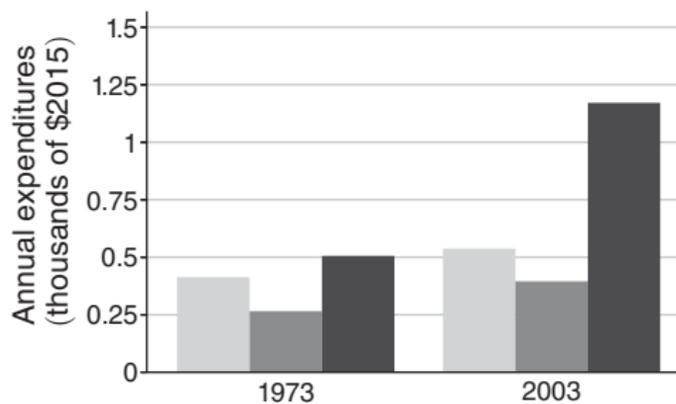
FIGURE 6. TRENDS IN CHILD TIME INVESTMENT PER PARENT BY MARITAL STATUS AND EDUCATION

Source: Blandin, A, and C. Herrington, 'Family Heterogeneity, Human Capital Investment, and College Attainment', *American Economic Journal: Macroeconomics*, 2022

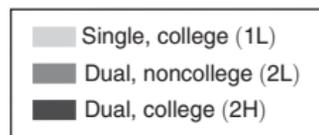
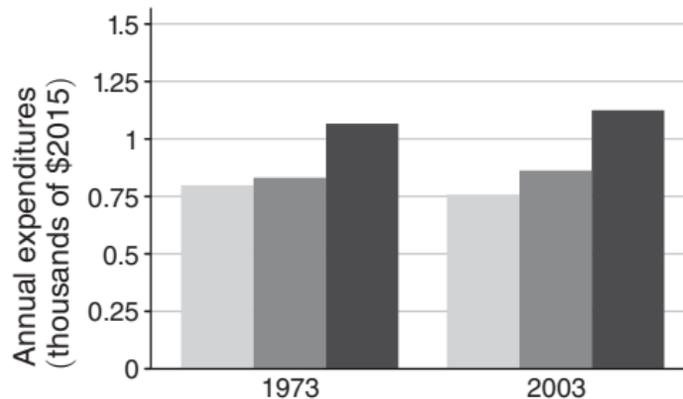
Panel A. Education



Panel B. Childcare



Panel C. Goods



Source: Blandin, A, and C. Herrington, 'Family Heterogeneity, Human Capital Investment, and College Attainment', *American Economic Journal: Macroeconomics*, 2022

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- 4 HC production: after early childhood, factors tend to become **complementary**  
→ **Towards an 'inequality spiral'?**

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  - → inequalities **of opportunity** stronger at each generation

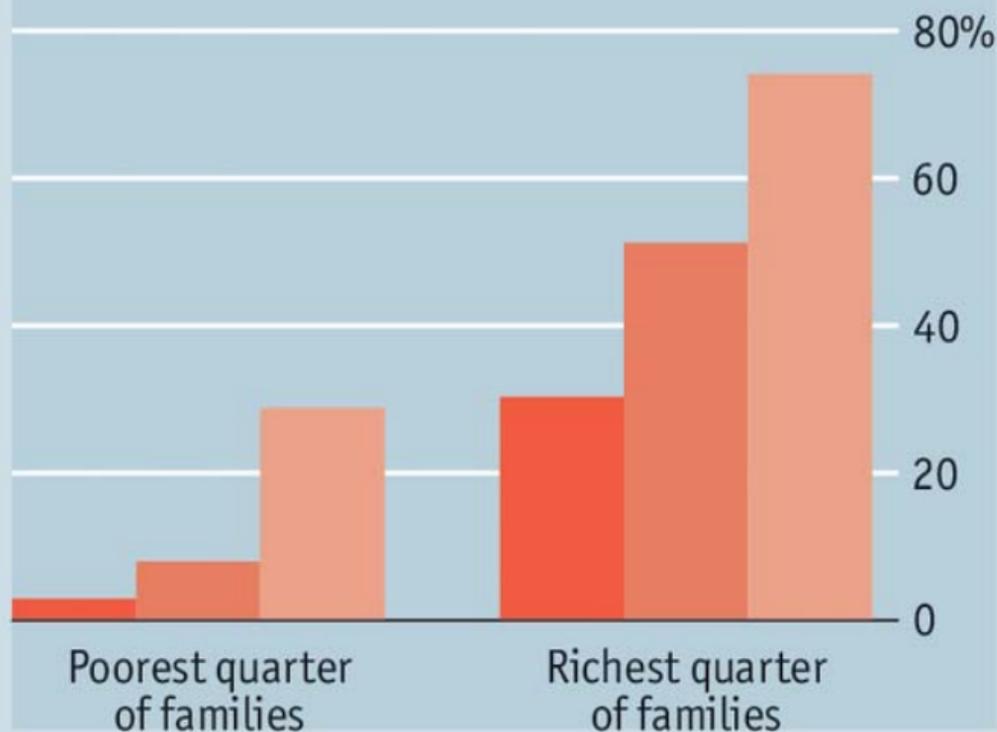
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  - Educated parents intermarry, invest into their children
  - Complementarity: at each stage of the HC accumulation process, investment are more profitable for children who started at a higher level (*'dynamic complementarity'*)
  - → inequalities **of opportunity** stronger at each generation
  - Note that: **efficient**

# Likelihood of graduating from college\*

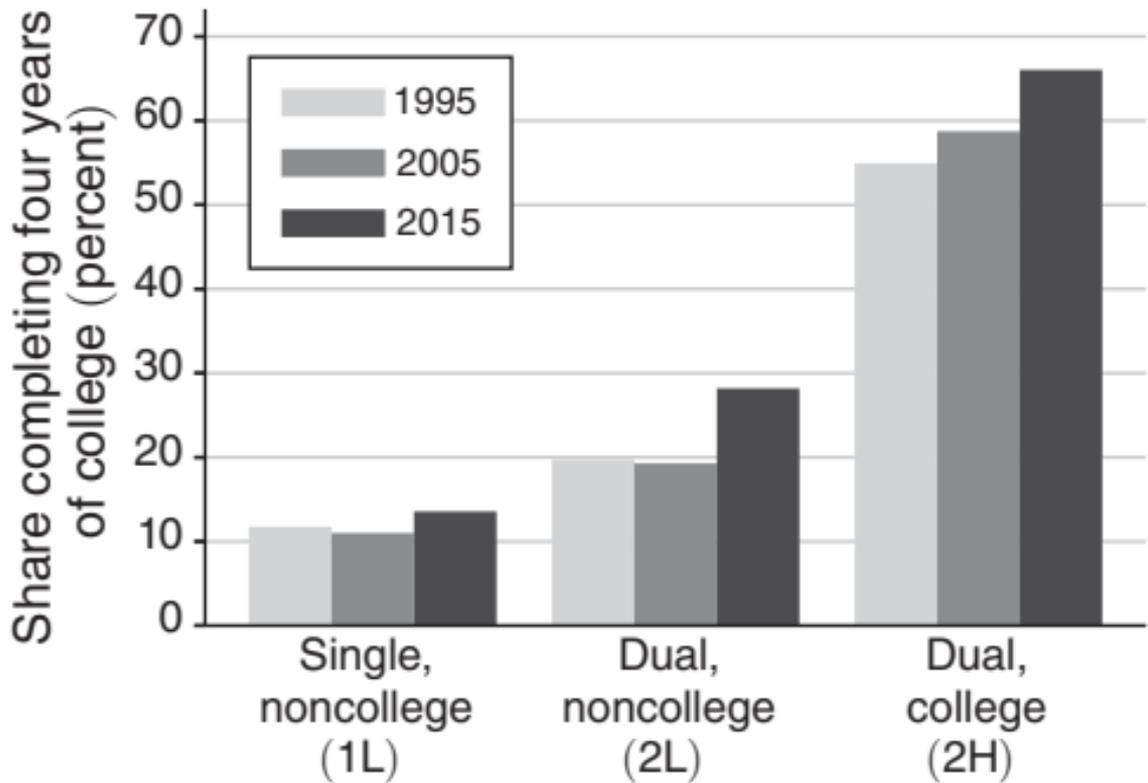
Child's middle-school (8th grade) test scores:

Low Middle High



\*College graduation 2000, test scores 1988

Panel A. College completion



# Early intervention

- Intuition: investing early (*before* complementarities kick in), on selected (disadvantaged) sub-populations, is **both** fair and efficient
- Substantial amount of research on various early childhood interventions:
  - The Perry pre-school experiment in the US (3-5 year olds; pre-school and home-visiting. Successful in improving labor market attachment and lowering crime - Heckman et al., 2013).
  - The Abecedarian program in the US (1972 - 111 children from low income families - successful in improving educational outcomes and long term health - Campbell, G Conti, JJ Heckman, et al., 2014).
  - In developing countries (The Jamaica study, India, Latin America,...)
- These programs have demonstrated the potential of early interventions to produce sustained outcomes for children from disadvantaged backgrounds.

*“The highest rate of return in early childhood development comes from investing as early as possible, from birth through age five, in disadvantaged families. Starting at age three or four is too little too late, as it fails to recognize that skills beget skills in a complementary and dynamic way. Efforts should focus on the first years for the greatest efficiency and effectiveness. The best investment is in quality early childhood development from birth to five for disadvantaged children and their families.”*

James J. Heckman, December 7, 2012