Social Mobility: Geography and Demography

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Figure 1: Intergenerational Mobility and Inequality: The "Gatsby Curve"

$$\text{IGE: } \ln \underbrace{Y_1}_{\substack{\text{Income in current} \\ \text{generation}}} = \alpha + \beta \ln \underbrace{Y_0}_{\substack{\text{Income of} \\ \text{parents}}} + \varepsilon$$
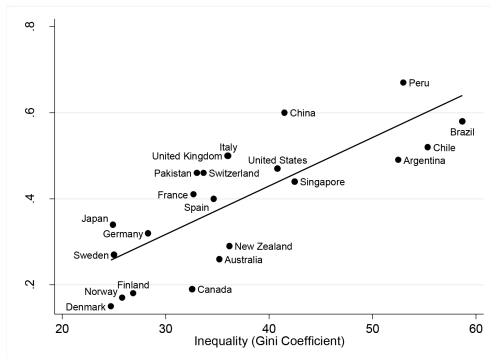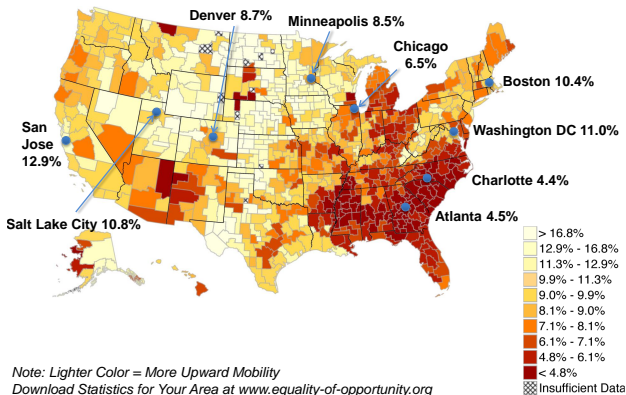

Source: Corak (2013)

- Inequality is measured **after taxes and transfers**.
- Gini index defined on **household income**.
- IGE measured by **pre-tax and transfer** income of **individual** fathers and sons. Notice inconsistencies.

Figure 2: The Geography of Upward Mobility in the United States

Chances of Reaching the Top Fifth Starting from the Bottom Fifth by Metro Area
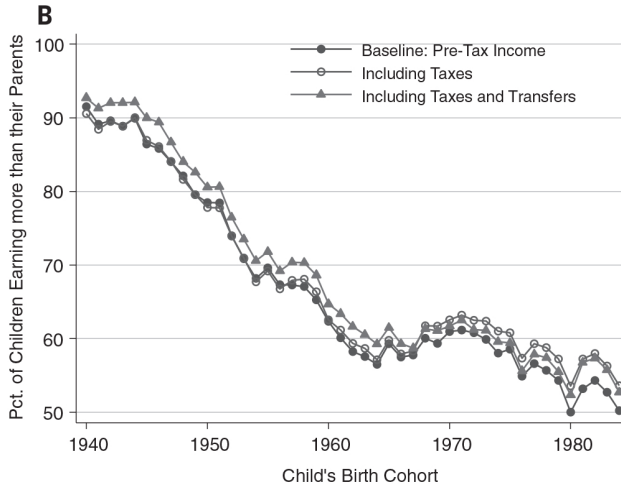

Note: Lighter Color = More Upward Mobility
Download Statistics for Your Area at www.equality-of-opportunity.org

The ranks are from national income distribution.

Source: Chetty (2016)
Note: The measure of P(Child in Q5–Parent in Q1) derived from within-CZ OLS regressions of child income rank against parent income rank.

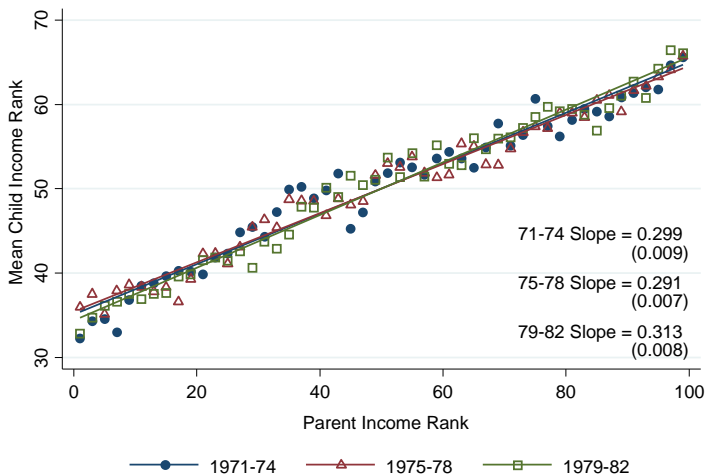Figure 3: Fig. 3. Trends in absolute mobility: Sensitivity analysis

B

Legend:
- Baseline: Pre-Tax Income
- Including Taxes
- Including Taxes and Transfers

Y-axis: Pct. of Children Earning more than their Parents

X-axis: Child's Birth Cohort

Source: The fading American dream: Trends in absolute income mobility since 1940.

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Figure 4: Child Income Rank vs. Parent Income Rank by Birth Cohort

71-74 Slope = 0.299
(0.009)

75-78 Slope = 0.291
(0.007)

79-82 Slope = 0.313
(0.008)

Source: Chetty et al. (2014).

Some Basic Questions

How to Interpret These Relationships?

What Policies (If Any) Should Be Adopted to Promote Social Mobility? To Reduce Inequality?

Is Income a Proper Measure of Welfare of Agents? Per Capita or Household or Extended Family Unit

Direction of Causality for Gatsby Curve?

- Inequality $\uparrow \Rightarrow \beta \uparrow$?
- $\beta \uparrow \Rightarrow$ inequality $\uparrow$?
- Limited access to credit and labor markets $\Rightarrow$ both $\beta \uparrow$ and inequality $\uparrow$?
- Family or place? In what proportion?
- What exactly is place? What features determine place?

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Understanding the Sources of Inequality and Social Immobility is Essential for Devising Effective Policies

Families? Schools? Neighborhoods? Peers? Tax/Transfer Policy? Macro Policy?

Which Measure of Mobility to Use?

- Rank (positional) Mobility? (and in what distribution?)
- Absolute Mobility (child doing better in real value terms than parent)?
- Mobility Within a Lifetime?

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Recent Cohorts Appear to be Doing Worse Than Previous Ones:
Effects Concentrated Among Younger Entrants Within Cohorts
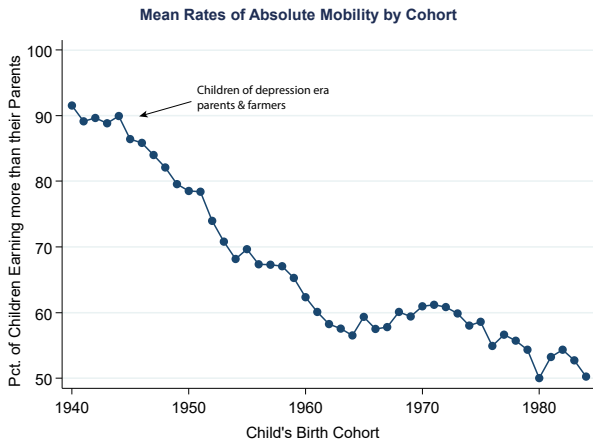**Negative Effects Much More Pronounced for Males**

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Figure 5: Percent of Children Earning More than their Parents By Parent Income Percentile
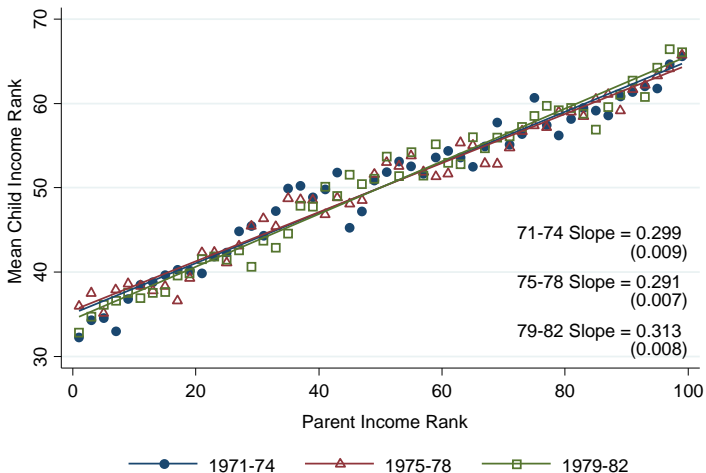
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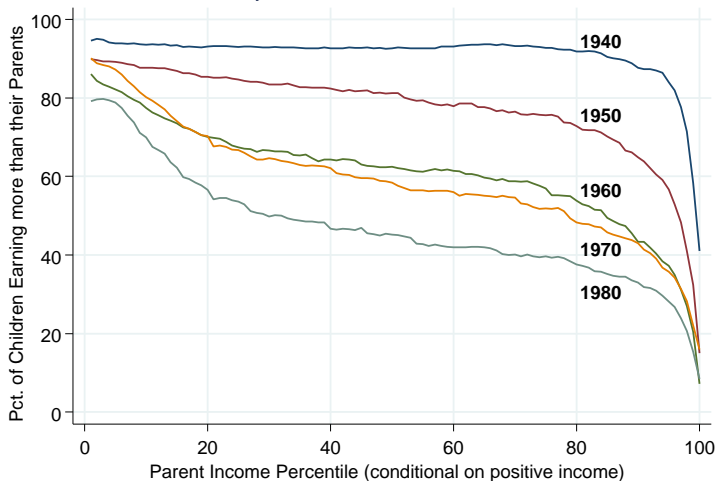
Relative Mobility Has Been Stable Over Recent Periods

Figure 6: Mean Rates of Absolute Mobility (Probability Children Do Better Than Parents) by Cohort
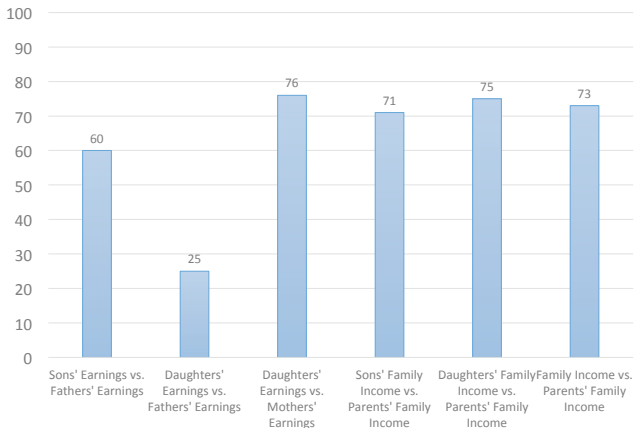

Mean Rates of Absolute Mobility by Cohort

Children of depression era parents & farmers

Source: Chetty et al. (2017)

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Figure 7: Child Income Rank vs. Parent Income Rank by Birth Cohort

71-74 Slope = 0.299
(0.009)

75-78 Slope = 0.291
(0.007)

79-82 Slope = 0.313
(0.008)

Mean Child Income Rank

Parent Income Rank

1971-74   1975-78   1979-82

Source: Chetty et al. (2014).

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Figure 8: Percent of Grown Children Surpassing the Income of Parents

Figure 9: Percent of Grown Sons in Each Fifth of Male Earnings by Each Fifth of Father Earnings
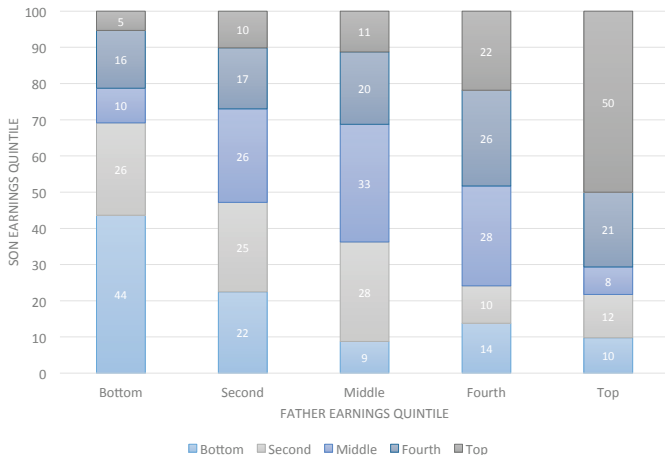
Figure 10: Percent of Grown Daughters in Each Fifth of Female Earnings by Each Fifth of Mother Earnings

Source: Winship (2017). Author's analysis of the Panel Study of Income Dynamics (PSID).
Note: The sample includes the 854 mother–daughter pairs where mothers had at least 5 years of non-missing earnings (out of a maximum of 15) and daughters had at least 7 years. See Appendix 1 for methodological details.

Figure 11: Percent of Grown Children in Each Fifth of Family Income by Each Fifth of Parental Income
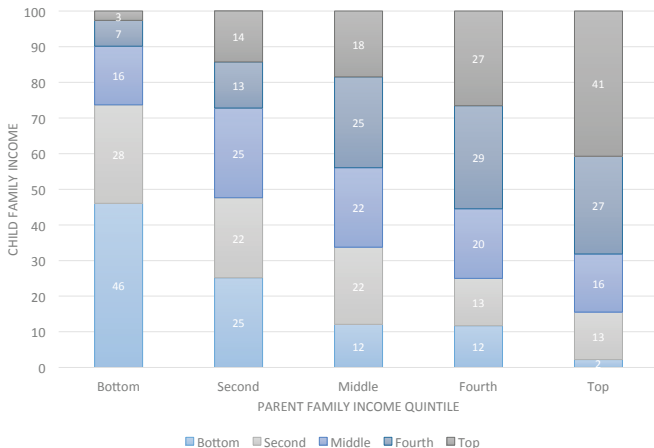
Source: Winship (2017). Author's analysis of the Panel Study of Income Dynamics (PSID).
Note: The sample is restricted to the 719 parent–child pairs where parents had at least 10 years of non-missing income and children had at least 9 years. Incomes are adjusted for family size. See Appendix 1 for methodological details.

Table 1: Summary of Key Measures of Persistence

| Measure	Men's Earnings	Women's Earnings	Family Income
Persistence of Relative Inequality			
Intergenerational rank association (rank–rank)	.44–.52 (.51)	.31–.40 (.37)	.51–.53 (.53)
Persistence of Absolute Inequality			
Intergenerational elasticity	.44–.78 (.77)	.27–.54 (.40)	.59–.66 (.66)
Intergenerational correlation	.38–.51 (.48)	.35–.42 (.39)	.51–.53 (.53)
Sibling Similarity			
Sibling rank association	.38–.39 (.39)	.24–.32 (.31)	.36–.43 (.43)
Sibling correlation	.33–.45 (.39)	.22–.31 (.30)	.35–.45 (.45)

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What are Effective Policies to Promote Social Mobility?

Recent Analyses Recognize:

1. Fundamental importance of skills in modern economies
2. Multiplicity of skills
3. The multiple sources of skills
   a. Schools
   b. Families
   c. Neighborhoods and peers
   d. Firms
4. The importance of supporting and incentivizing all of these sources of skill
5. The importance of the early life origins of adult skills
6. Effective targeting by age of skill formation strategies
7. Need for evaluations of skill formation approaches accounting for costs and benefits measured in terms of social opportunity costs

The Family as Producer of Child Quality and as a Source of Inequality: Early Family Environments are Deteriorating

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Figure 12: Children Under 18 Living in Single Parent Households by Marital Status of Parent
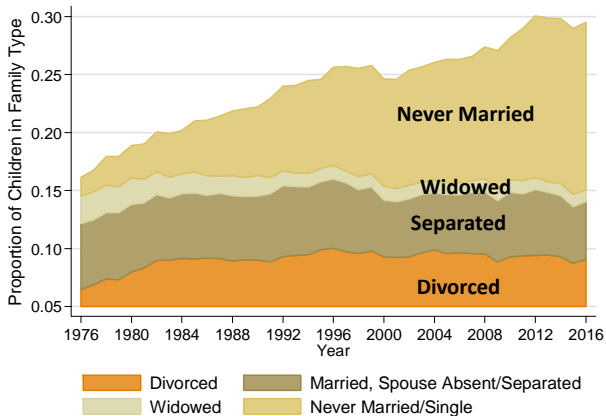
Note: Parents are defined as the head of the household. Children are defined as individuals under 18, living in the household, and the child of the head of household. Children who have been married or are not living with their parents are excluded from the calculation. Separated parents are included in "Married, Spouse Absent" Category.
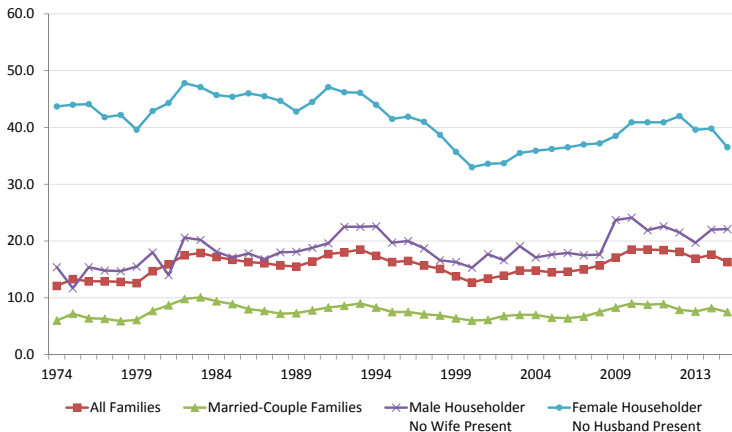Source: IPUMS March CPS 1976-2016.

Figure 13: Share of births outside of marriage, 1970[a], 1990[b] and 2014 or latest available year[c] — Proportion (%) of all births where the mother's marital status at the time of birth is other than married[b]
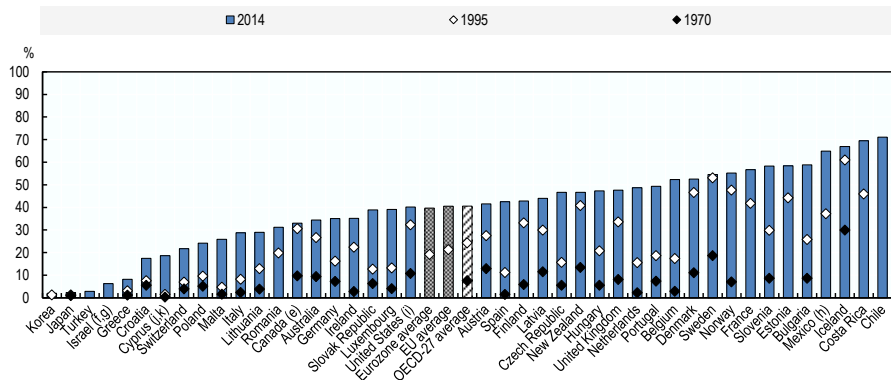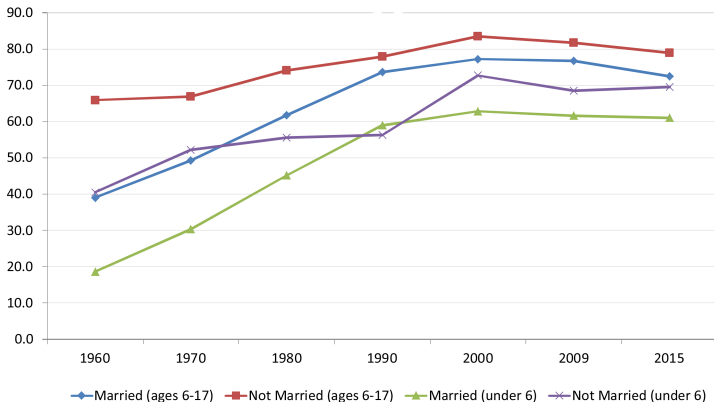
Source: OECD Family Database

Demographic Factors:
Change in Households and Household Behavior

Figure 14: Family Poverty Rates by Household Type, 1974–2015 : Households with Children Under Age 18

Legend: All Families, Married-Couple Families, Male Householder No Wife Present, Female Householder No Husband Present
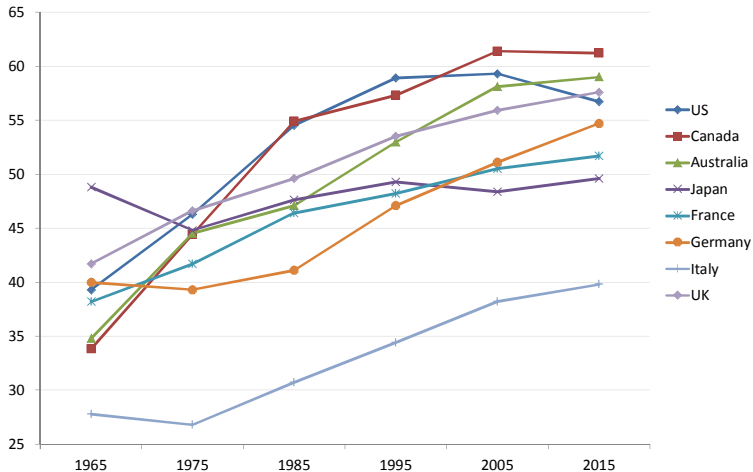
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Figure 15: Labor Force Participation Rates of Mothers by Marital Status and Child's Age , US

Note: Married category includes married husband present. Single category includes never married, widowed, divorced or separated and married with spouse absent.
Source: Census The 2012 Statistical Abstract, Women in the Labor Force: A Databook 2015, United States Department of Labor.
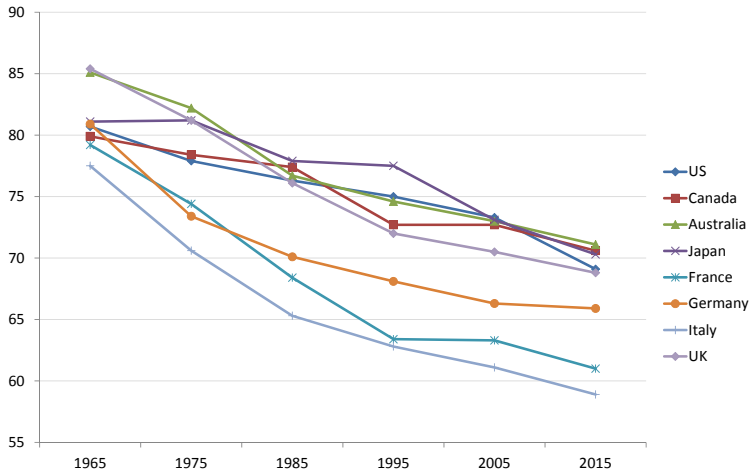
Table 2: Female Labor Force Participation Rates, 15+

Source: Browning, Martin, Pierre-Andre Chiappori, and Yoram Weiss. Economics of the Family. Cambridge University Press, 2014 and OECD.stat.
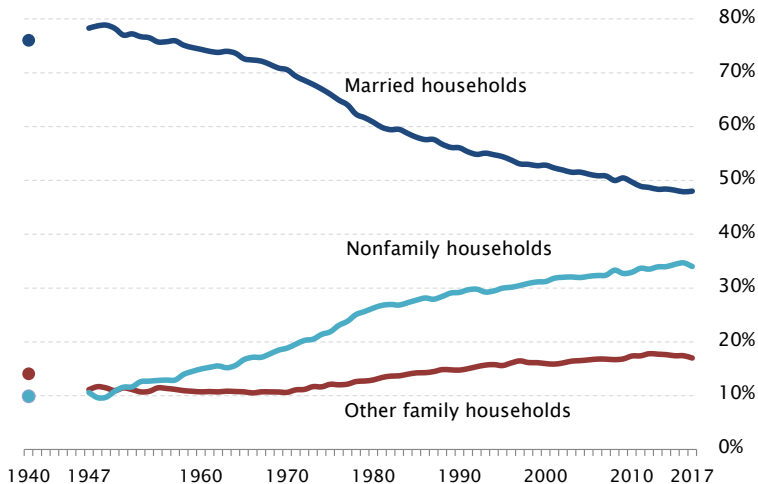
Table 3: Male Labor Force Participation Rates, 15+

Source: Browning, Martin, Pierre-Andre Chiappori, and Yoram Weiss. Economics of the Family. Cambridge University Press, 2014 and OECD.stat.
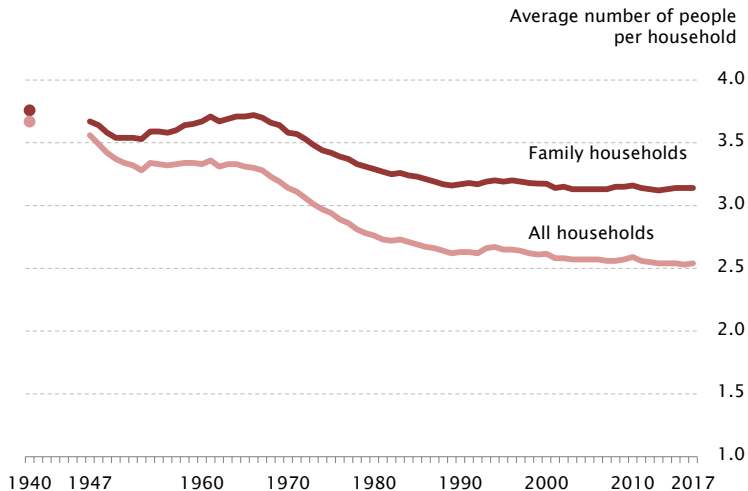
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Figure 16: Percent of households by type

Married households

Nonfamily households

Other family households

| | | | | | | | | |
80%
70%
60%
50%
40%
30%
20%
10%
0%

1940 1947   1960   1970   1980   1990   2000   2010 2017

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Figure 17: Changes in household size
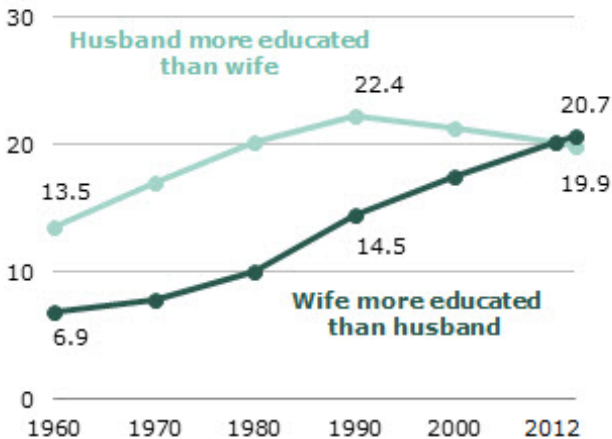
Average number of people
per household

Family households

All households

Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements, 1940 and 1947 to 2017.

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Figure 18: More Women Marrying Down

% of currently married couples

Husband more educated than wife: 13.5, 22.4, 20.7

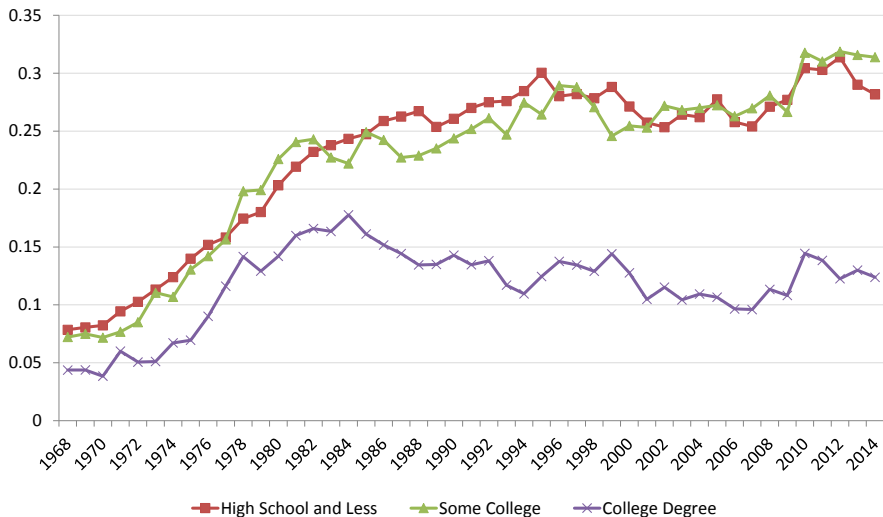Wife more educated than husband: 6.9, 14.5, 19.9

Source: Pew Research Center (2014) analysis of the Decennial Census and American Community Survey, IPUMS files.

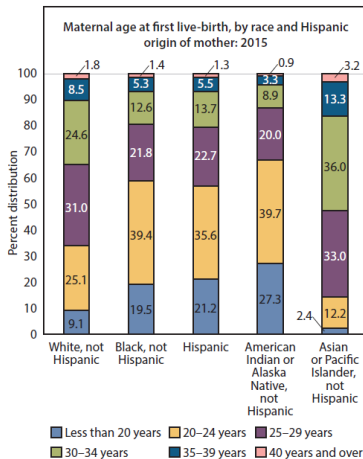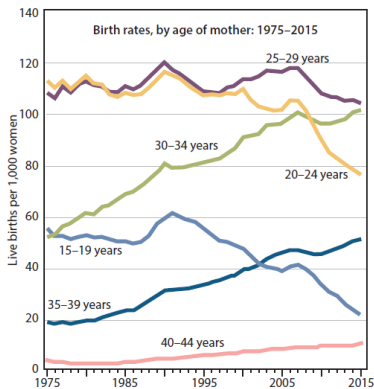Figure 19: Share of Marriages Between Less-Educated Declines

% of currently married couples

Both high school or less

Both college

Both some college

73.6

24.2
22.4

3.1
2.9

12.8

80 70 60 50 40 30 20 10 0

1960 1970 1980 1990 2000 2012

Source: Pew Research Center (2014) analysis of the Decennial Census and American Community Survey, IPUMS files.

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Figure 20: Divorce Rates by Schooling, US

Legend: High School and Less · Some College · College Degree

Source: IPUMS CPS. Divorce Rate is defined as (% divorced ages 30–35) /(% married age 25–30).

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Figure 21: Birth Rates, 1909-2016
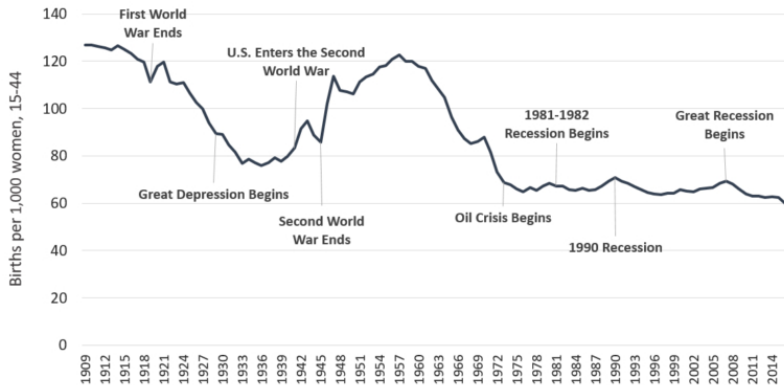
Source: Population Research Institute. NCHS, National Vital Statistics Report, Vol 66, No 1 (for data 1960–2015). NCHS, Vital Statistics of the United States, 2003, Volume 1, Natality (for data 1909–1960).

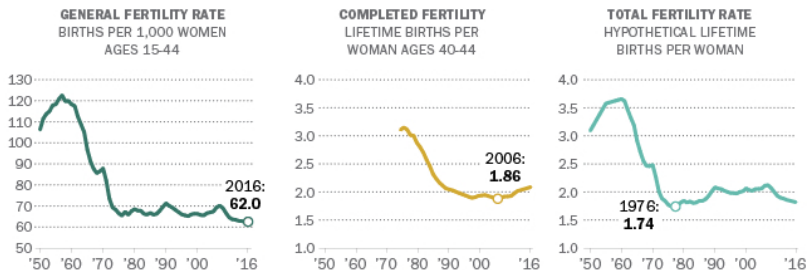Figure 22: Birth rates, by age of mother and age at first live-birth: United States, 1975–2015

Figure 23: U.S. Fertility Hits All-Time Low in 2016... and 2006... and 1976

Fertility indicators

GENERAL FERTILITY RATE BIRTHS PER 1,000 WOMEN AGES 15-44 — 2016: 62.0

COMPLETED FERTILITY LIFETIME BIRTHS PER WOMAN AGES 40-44 — 2006: 1.86

**TOTAL FERTILITY RATE** HYPOTHETICAL LIFETIME BIRTHS PER WOMAN — 1976: 1.74

Note: Completed fertility data available for 1976-2012 only. Where necessary, TFR and completed fertility values are interpolated. All values based upon live births.
*Source*: Pew Research Center (2015). Data for GFR obtained from National Center for Health Statistics and Heuser (1976); for completed fertility, U.S. Census Bureau, Current Population Survey; for TFR, National Center for Health Statistics.

Figure 24: Median Age at First Marriage, 1890 to Present
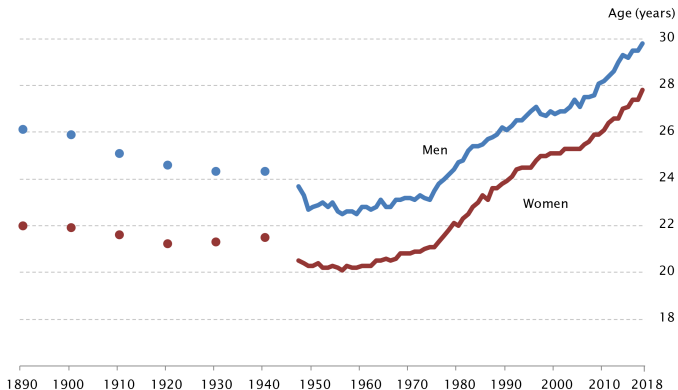
Source: United States Census Bureau. Decennial Census, 1890 to 1940, and Current Population Survey, Annual Social and Economic Supplements, 1947 to 2018.
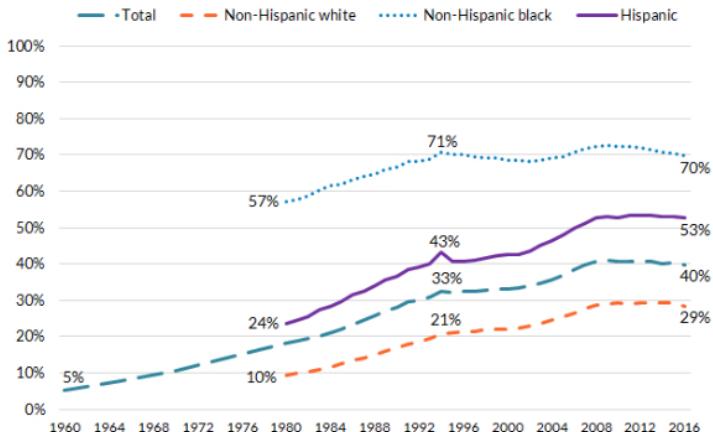
Figure 25: The Decoupling of Marriage and Childbearing

% of births to unmarried women
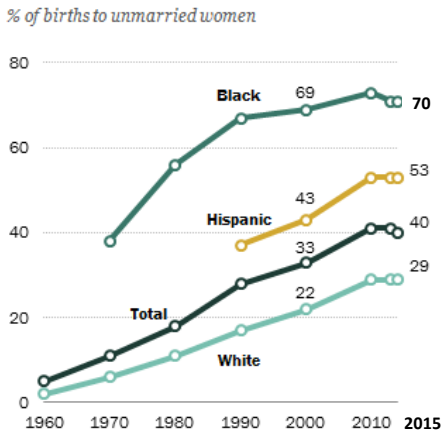
Note: Whites and blacks include only single-race non-Hispanics. Hispanics are of any race. 2014 data are preliminary. Data for Asians only not available.
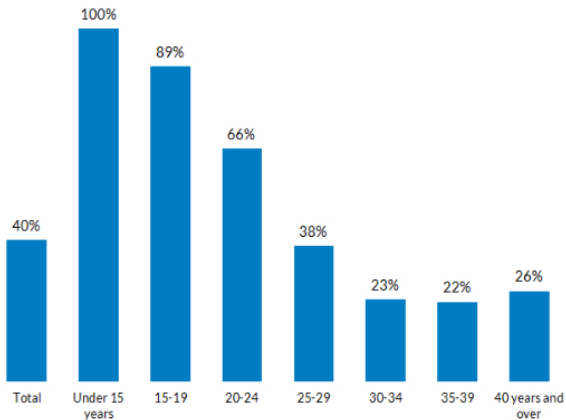*Source*: National Center for Health Statistics natality data, PEW Research Center.

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Figure 26: Percentage of All Births that Were to Unmarried Women, by Race and Hispanic Origin: Selected Years, 1960-2016

Figure 27: Percentage of All Births That Were to Unmarried Women, by Maternal Age: 2016

Figure 28: For the Less Educated, More Births Outside of Marriage

% of new mothers who are unmarried
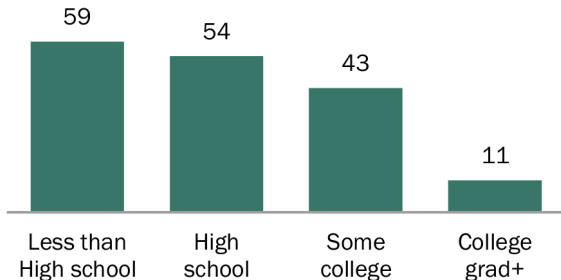
Note: Based on women ages 15–44 who have given birth in the past year. Marital status is based on time of survey.
Source: Pew Research Center analysis of 2014 American Community Survey (IPUMS).

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