Race, Class, and Mobility in U.S. Marriage Markets

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Large racial income disparities persist in the United States

- Legacy of slavery; discrimination in labor, housing, and credit markets. (Pager and Shepherd 2008)
- Changed little, on average or median, since 1970. (Bound and Freeman 1992; Bayer and Charles 2018)
- Catalyzed the intergenerational focus of recent literature. (Mazumder 2014; Killewald and Bryan 2018; Akee et al. 2019; Chetty et al. 2020; Collins and Wanamaker 2022; Derenoncourt 2022)
- Focus is usually on **personal** income; family income rarely considered differently.
- This paper:
  - What is the role of the **marriage market** in shaping **family** income mobility differences across racial groups?
  - To answer this, must ask: how do marriage market outcomes vary by race X childhood family income?

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Context for our analysis: the “retreat from marriage”

- During this post-1970 period:
  - Massive decline in first-marriage rates (Stevenson and Wolfers 2007)
  - that occurred unevenly across education (Cherlin 2014; Lundberg et al 2016; Binder and Bound 2019)
  - and racial groups. (Tucker and Mitchell-Kernan 1995; McLanahan and Percheski 2008; Raley et al. 2015)
- In 2019 ACS, currently-married share of women aged 25-54 was
  - 60.0% for White women.
  - 31.1% for Black women.
- Intergenerational income perspective X cross-sectional marriage-market perspective.
- For now, focus on **women’s** outcomes.

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We build and analyze a new mobility dataset

- Link 2011-2019 ACS respondents born in 1978-86 to their parents' tax filing records.
- Part 1: estimate components of marriage-market-based income mobility by race.
  - Expected income from partner (EIFP: product of partnering rate and average partner income).
  - Estimates of EIFP guide a mobility simulation.
- Part 2: investigate sources of the Black-White gap in marriage-market-based mobility.
  - Estimate effects of selected sociodemographic variables on EIFP.
  - Estimates allow us to consider counterfactual policy scenarios.

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Related literature and our contributions

- Intergenerational marriage-market processes. (Chadwick and Solon 2002; Ermisch et al. 2006; Charles et al. 2013; Choi et al. 2020; Wagner et al. 2020; Fagereng et al. 2020)
- Local marriage-market analyses of racial disparities. (Lichter et al. 1991, 1992; Harris and Ono 2005; Charles and Luoh 2010; Qian et al. 2018; Washington and Walker 2022)
- Assortative matching using educational categories. (Schwartz and Mare 2005; Fernandez et al. 2005; Greenwood et al. 2014; Eika et al. 2019; Ciscato and Weber 2020; Chiappori et al. 2020)
- Chetty et al. find no Black-White disparity in women's **personal** income mobility;
  - We show a wide gap in women's **family** income mobility, driven mostly by marriage-market forces.
  - We trace a substantial portion of this gap to prevailing childhood exposure to inequality and segregation, in addition to race-specific demographic disparities.
  - These proximate mechanisms potentially underlie forces of stigma, stereotyping, and exclusion studied by other social scientists. (e.g. Bany et al. 2014; Rosenthal et al. 2019)

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Data

- Link 2011-2019 ACS individuals to their parents' summary tax filing records (1040 forms) via Protected Identification Key (PIK).
- U.S.-born individuals only.
- Competing restrictions:
  - Observe dependent PIKs starting in 1994.
  - Need children to have reached union-formation age when we observe them in ACS.
  - Women (men) born in 1982-86 (1979-83) and observed at ages 28-32 (31-35).
- Approximate *N*: 1.3 million individuals and 450,000 couples.
- Link ACS individuals to their own 1040 filing statuses as well: identify more couples than is possible with cross-sectional survey data alone.

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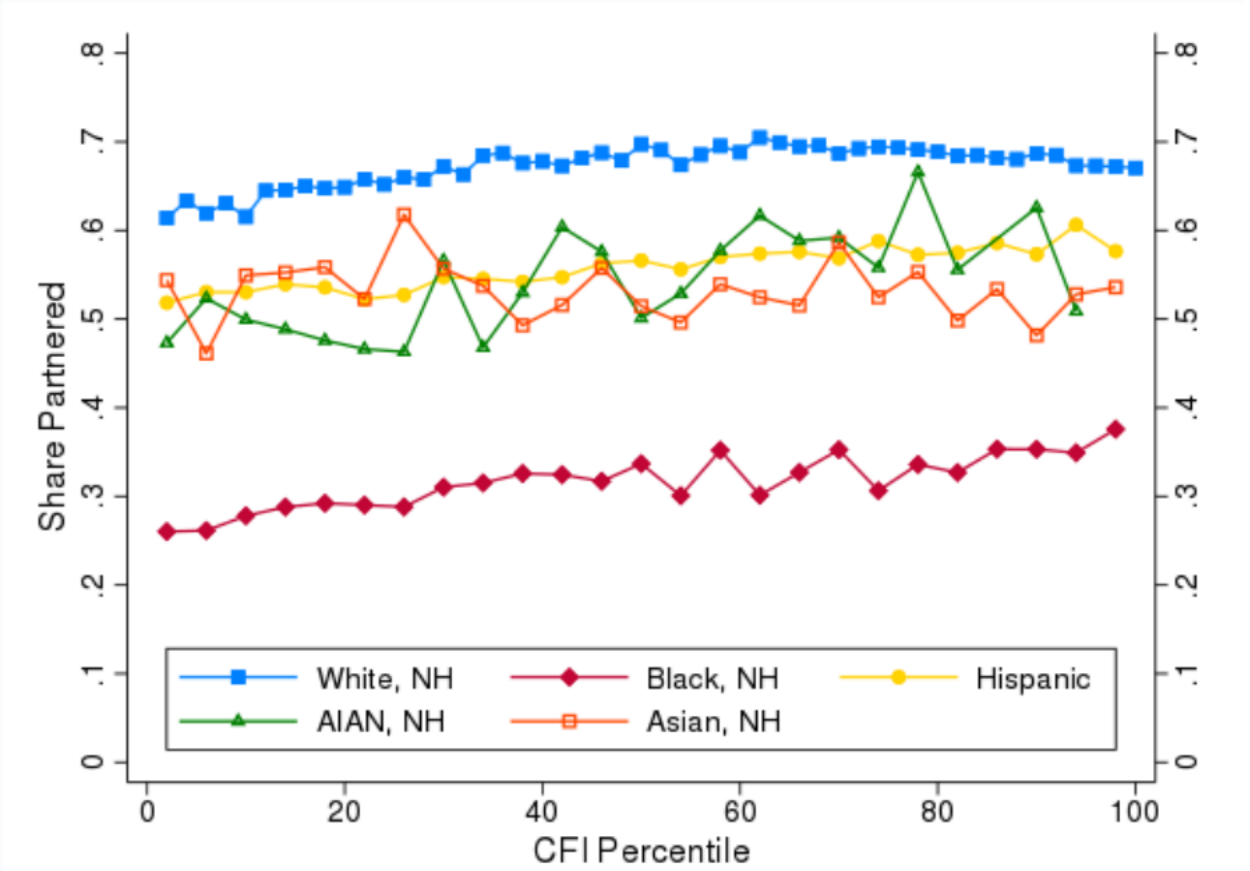
Part 1: describing marriage-market-based income mobility



Source: 2011-2019 ACS linked to 1040 Forms from the IRS.

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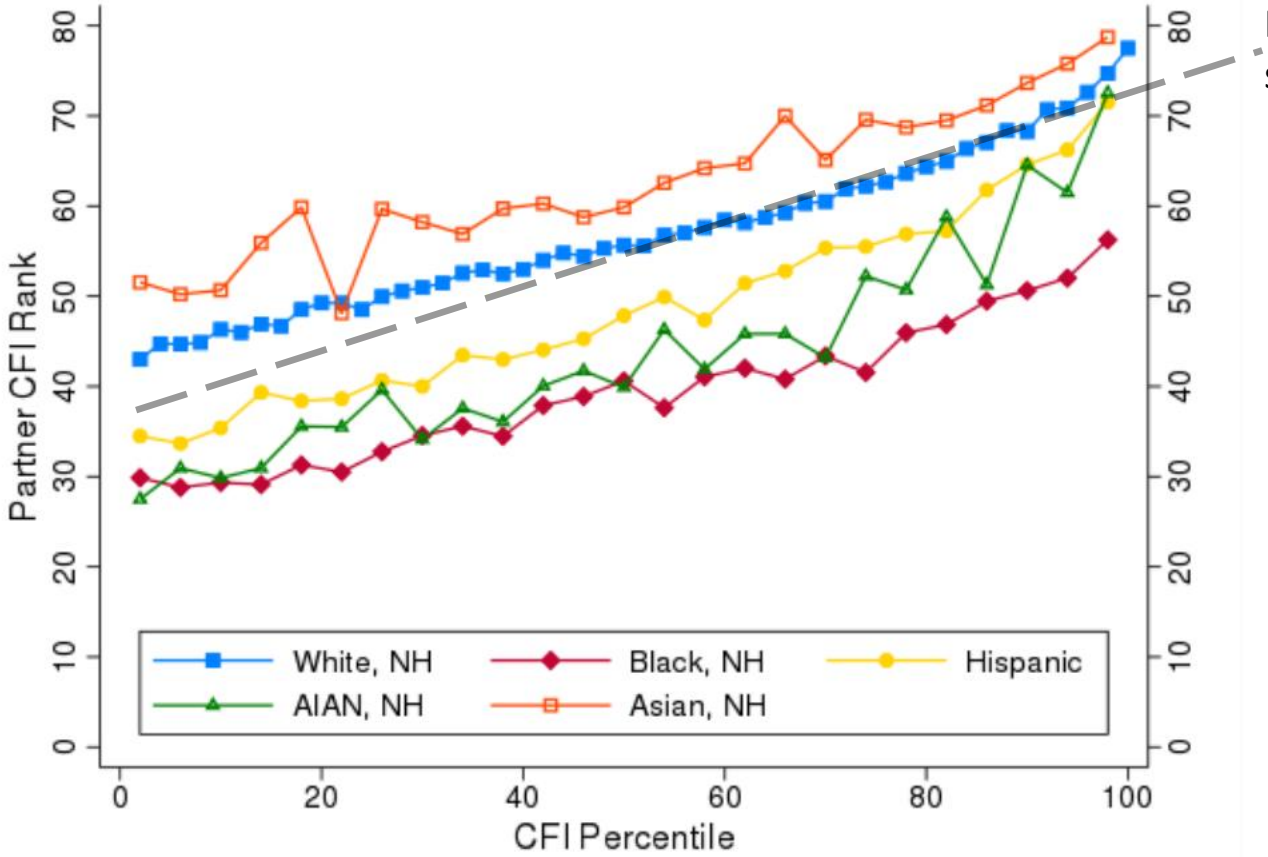

Full-sample rank-rank slope: 0.350 (.002)

Source: 2011-2019 ACS linked to 1040 Forms from the IRS.

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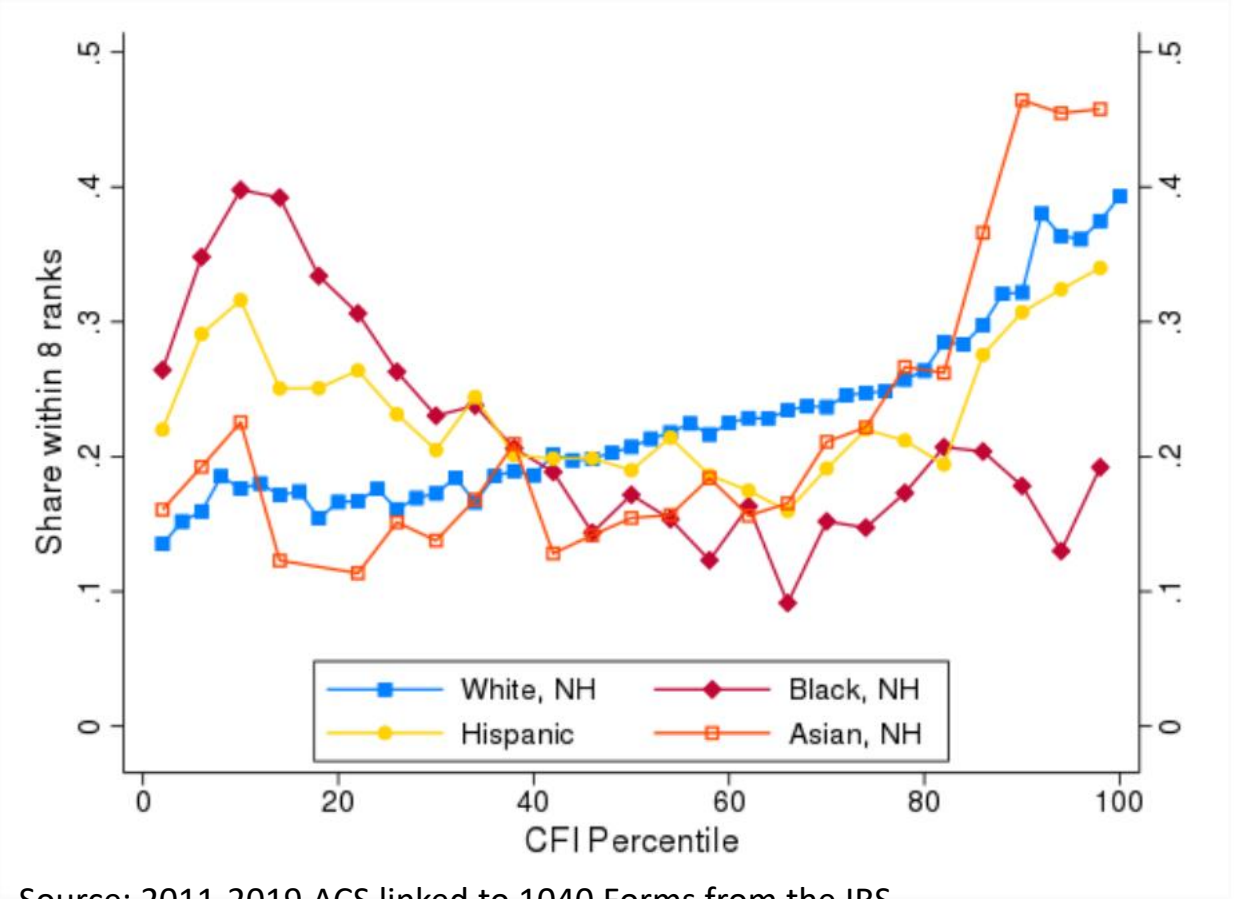

Source: 2011-2019 ACS linked to 1040 Forms from the IRS.

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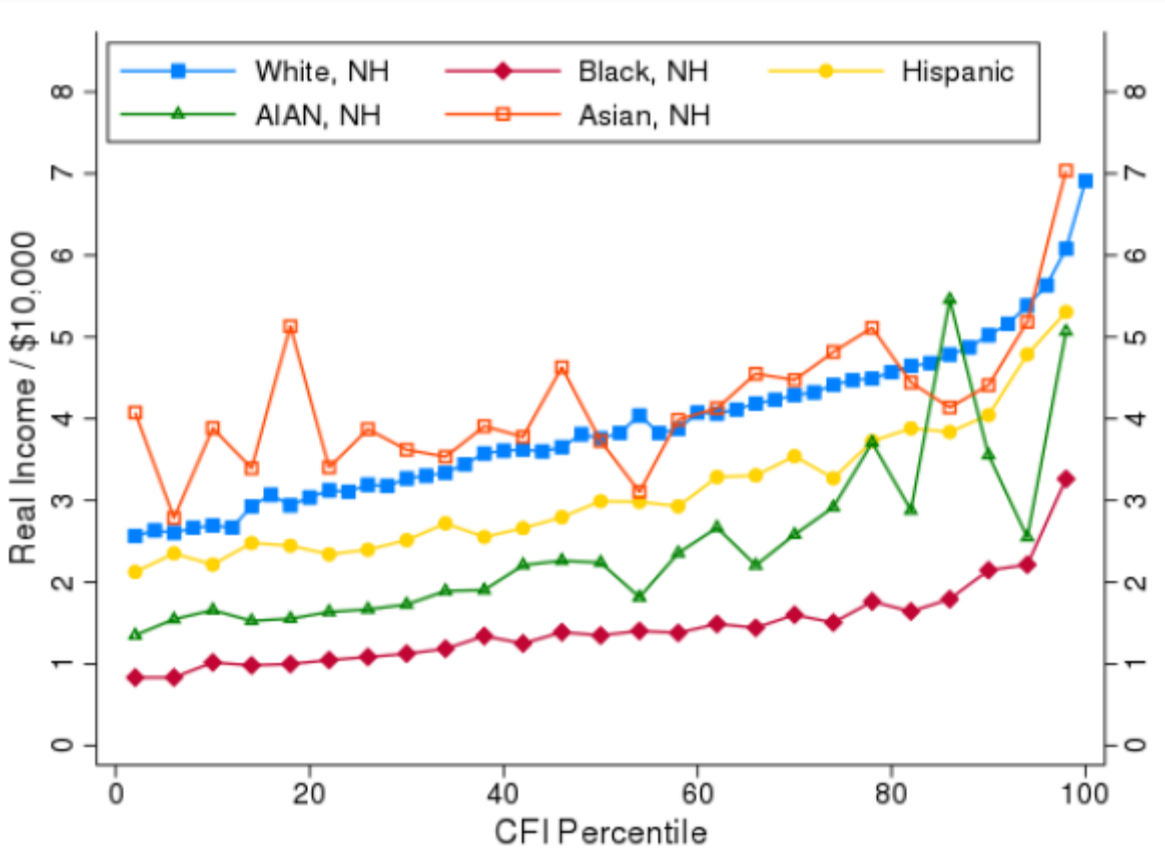

Source: 2011-2019 ACS linked to 1040 Forms from the IRS.

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Part 1: mobility simulation

Mobility statistic	White, NH	Black, NH	Hispanic	AIAN, NH
Panel A. Observed Data				
Pr(move out of Q1)	0.73	0.57	0.72	0.54
Pr(move from Q1 to Q5)	0.11	0.03	0.08	0.03
Pr(remain in Q5)	0.39	0.16	0.29	0.22
Pr(move from Q5 to Q1)	0.08	0.20	0.13	0.17
Panel B. Counterfactual: All Groups have White Women's Personal Income				
Pr(move out of Q1)	0.73	0.56	0.69	0.63
Pr(move from Q1 to Q5)	0.11	0.03	0.07	0.05
Pr(remain in Q5)	0.39	0.18	0.33	0.27
Pr(move from Q5 to Q1)	0.08	0.17	0.11	0.12
Panel C. Counterfactual: All Groups Have White Women's Partner Income				
Pr(move out of Q1)	0.67	0.72	0.74	0.66
Pr(move from Q1 to Q5)	0.09	0.08	0.09	0.06
Pr(remain in Q5)	0.37	0.34	0.35	0.30
Pr(move from Q5 to Q1)	0.11	0.10	0.11	0.13

Source: 2011-2019 ACS linked to 1040 Forms from the IRS.

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Part 2: sources of the Black-White mobility gap

- Collapse dataset into birth-CBSA-by-race averages.
- Holding constant CFI distribution, how do various sociodemographic variables affect:
  - Partnering rate.
  - Assortative matching.
  - EIFP.
- Main variables of interest: own-race sex ratio, CFI inequality, racial segregation.

$$Y_{cr} = \alpha_r + \underbrace{\delta_r D_{cr} + \beta_r{}' \boldsymbol{X_{cr}}}_{\text{CFI dist'n and other controls}} + \underbrace{\rho_r{}' \boldsymbol{M_{cr}}}_{\text{Main vars of interest}} + \varepsilon_{cr}.$$

- Estimate separately by race.

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Part 2: sources of the Black-White mobility gap

	Q5 sorting		ln(EIFP)	
	White	Black	White	Black
ln(Sex ratio)	0.033	-0.054	0.167***	0.046
	(.027)	(.080)	(.035)	(.091)
ln(Q5 inequality)	0.058***	-.185**	0.029	-.307**
	(.021)	(.082)	(.036)	(.121)
Racial segregation	-.054**	0.031	-.128***	-.393*
	(.032)	(.176)	(.048)	(.206)
Controls				
CFI distribution	x	x	x	x
Market size	x	x	x	x
Region effects	x	x	x	x
CFI segregation	x	x	x	x
Sample mean				
R^2	0.088	0.061	0.358	0.292
Rounded N	850	150	850	150

Source: 2011-2019 ACS linked to 1040 Forms from the IRS.

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Summary of findings

- Conditional on CFI:
  - White women ~twice as likely to be partnered as Black women.
  - White women's partners have ~15 ranks higher CFI than Black women's.
  - Black women can expect 60% less partner income from participating in the marriage market. $$ disparity larger at higher CFI percentiles.
  - White-Hispanic disparity is smaller, White-Asian disparity is ~0.
  - Among the rich, White and Asian (Black) women exhibit high (low) assortativeness on CFI.
  - Among the poor, Black (White and Asian) women exhibit high (low) assortativeness on CFI.
- The Black-White EIFP disparity
  - arises from a **combination** of **race-specific demographic disadvantage** and **common exposure to inequality and segregation that affects Black individuals more negatively**.
  - Eliminating birth-CBSA-predicted sex-ratio disadvantage, birth-CBSA segregation, and lowering birth-CBSA inequality to Sweden level would eliminate 40% of the mobility gap.

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Appendix slides

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Sample criteria

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
2008	29	28	27	26	25	24	23	22	21	20	19	18	17
2009	30	29	28	27	26	25	24	23	22	21	20	19	18
2010	31	30	29	28	27	26	25	24	23	22	21	20	19
2011	32	31	30	29	28	27	26	25	24	23	22	21	20
2012	33	32	31	30	29	28	27	26	25	24	23	22	21
2013	34	33	32	31	30	29	28	27	26	25	24	23	22
2014	35	34	33	32	31	30	29	28	27	26	25	24	23
2015	36	35	34	33	32	31	30	29	28	27	26	25	24
2016	37	36	35	34	33	32	31	30	29	28	27	26	25
2017	38	37	36	35	34	33	32	31	30	29	28	27	26
2018	39	38	37	36	35	34	33	32	31	30	29	28	27
2019	40	39	38	37	36	35	34	33	32	31	30	29	28

Age of primary men

Age of Primary women

Age of Partners

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Identifying couples

1. Link ACS reference person to partner of reference person.
2. Add links based on IRS 1040 Forms.
    a. For ACS person in year *t*, get PIK of **first spouse observed on IRS 1040 Form in [*t*, *t* + 5].**
    b. Link person to IRS spouse if not already linked to an ACS partner.
    c. Identify some marriages and cohabitations that do not include ACS reference person.
    d. Can't identify additional cohabitations that don't turn into marriages.

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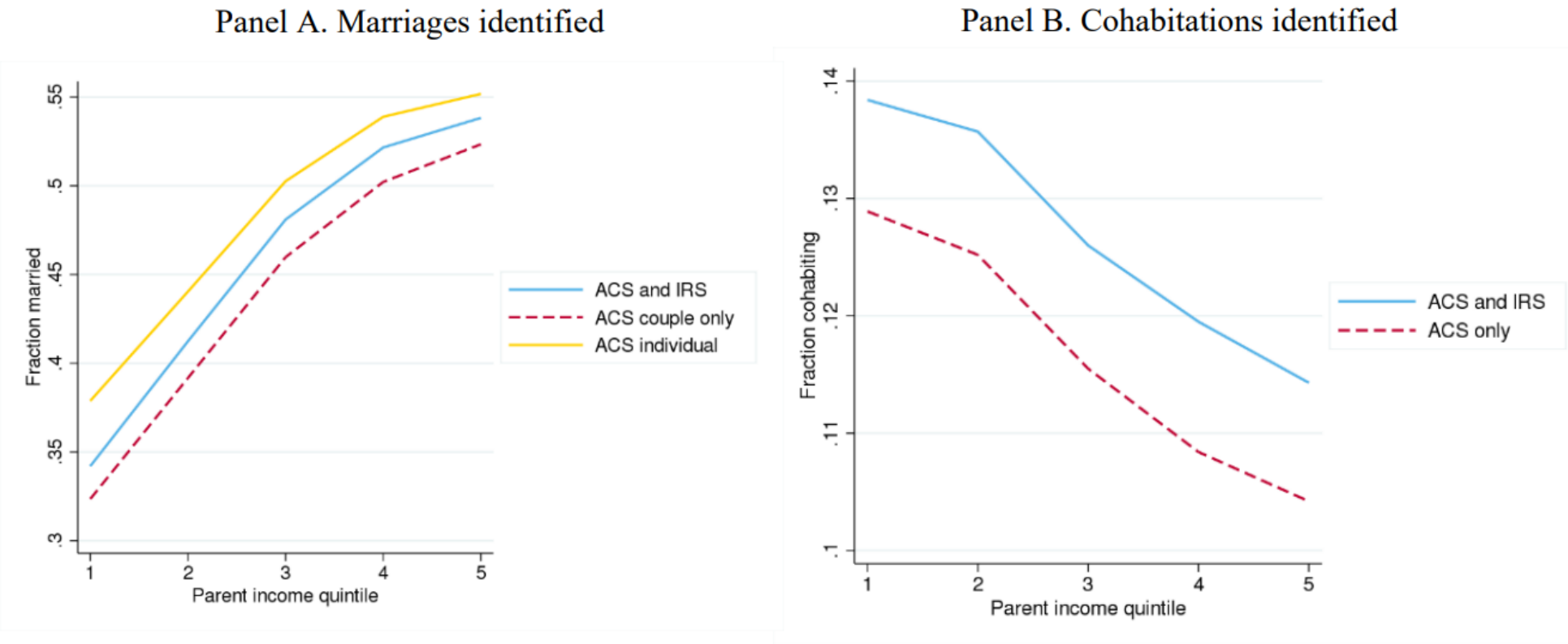
Additional couples identified from IRS data



Source: 2011-2019 ACS linked to 1040 Forms from the IRS.

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Measuring Childhood Family Income (CFI)

- Average Adjusted Gross Income (AGI) of tax units claiming child as dependent when child is aged 10-18.
- Require at least two potential data years of AGI observations during this age range.
- Have dependent links on the 1994-1995 and 1998-2019 tax forms.
- Deflate yearly AGIs to 2015 prices using the BLS Urban CPI.
- Omit negative AGIs.
- Do not tie children to an unchanging set of caregivers: filer(s) claiming child may change over time.

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Formal assortative matching indices

- Assortative matching: fundamentally a categorical measure. (Chiappori et al. 2020)
- For partnered individuals *i* belonging to racial group *r* and CFI percentile *p*, partition the sample into two categories:

$$c_1 = \{i : P_i \in [p-\tau, p+\tau]\};\ c_2 = \{i :\notin P_i\ [p-\tau, p+\tau]\}$$

- Criterion 1: Linear probability model coefficient.

Estimate LPM: $1\{i \in c_1\} = \alpha_{pr} + \beta_{pr} 1\{j \in c_1\} + \varepsilon_{ipr}$

$$\beta_{pr} = Pr(i \in c_1 | j \in c_1) - Pr(i \in c_1 | j \in c_2)$$

- Criterion 2: weighted likelihood criterion.

$$EMZ_{pr} = \sum_{n \in \{1,2\}} w_n \cdot \frac{Pr(i \in c_n, j \in c_n)}{Pr(i \in c_n)\, Pr(j \in c_n)}$$

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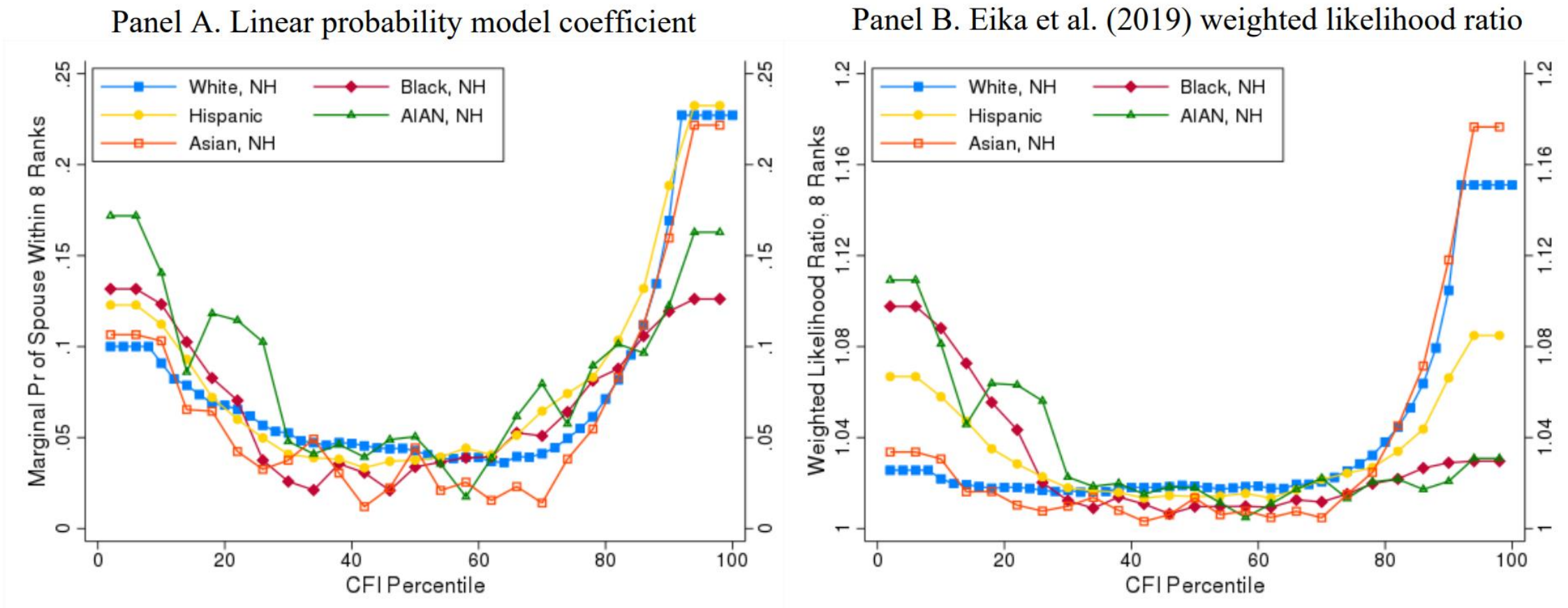
Formal assortative matching indices



Source: 2011-2019 ACS linked to 1040 Forms from the IRS.

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Policy counterfactual

- Start with the covariates and ln(EIFP) outcomes observed in the pop-weighed average birth CBSA for each of Whites and Blacks.
  - Equalize CFI distribution and sex ratio by lowering White women's value to match Black women's; eliminate racial segregation; reduce CFI inequality to Sweden's level.
  - After the first intervention, CFI is held constant, so remaining interventions explicitly affect the **mobility gap.**

	Panel A. Observed Data			*Panel B. Counterfactual*		
	White	Black	Gap	White	Black	Gap
Covariates						
Log Q5 inequality	1.37	1.48	-0.11	0.77	0.77	0.00
Log share in Q5	-1.40	-2.94	1.54	-2.94	-2.94	0.00
Share in Q5	0.25	0.05	0.19	0.05	0.05	0.00
CFI segregation index	0.37	0.41	-0.04	0.37	0.41	-0.04
Racial segregation index	0.48	0.63	-0.15	0.00	0.00	0.00
Log adjusted sex ratio	-0.03	-0.26	0.23	-0.26	-0.26	0.00
Adjusted sex ratio	0.97	0.77	0.20	0.77	0.77	0.00
Outcomes						
Log *EIFP*	10.61	9.24	1.37	10.37	9.71	0.66
EIFP	40830	10530	30300	31890	16480	15410
Intermarriage		0.06			0.19	

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