Baby's Gone:
The Effects of Increased Sentencing Severity on Fertility and Family Formation

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Societal Impacts of Policing and Incarceration

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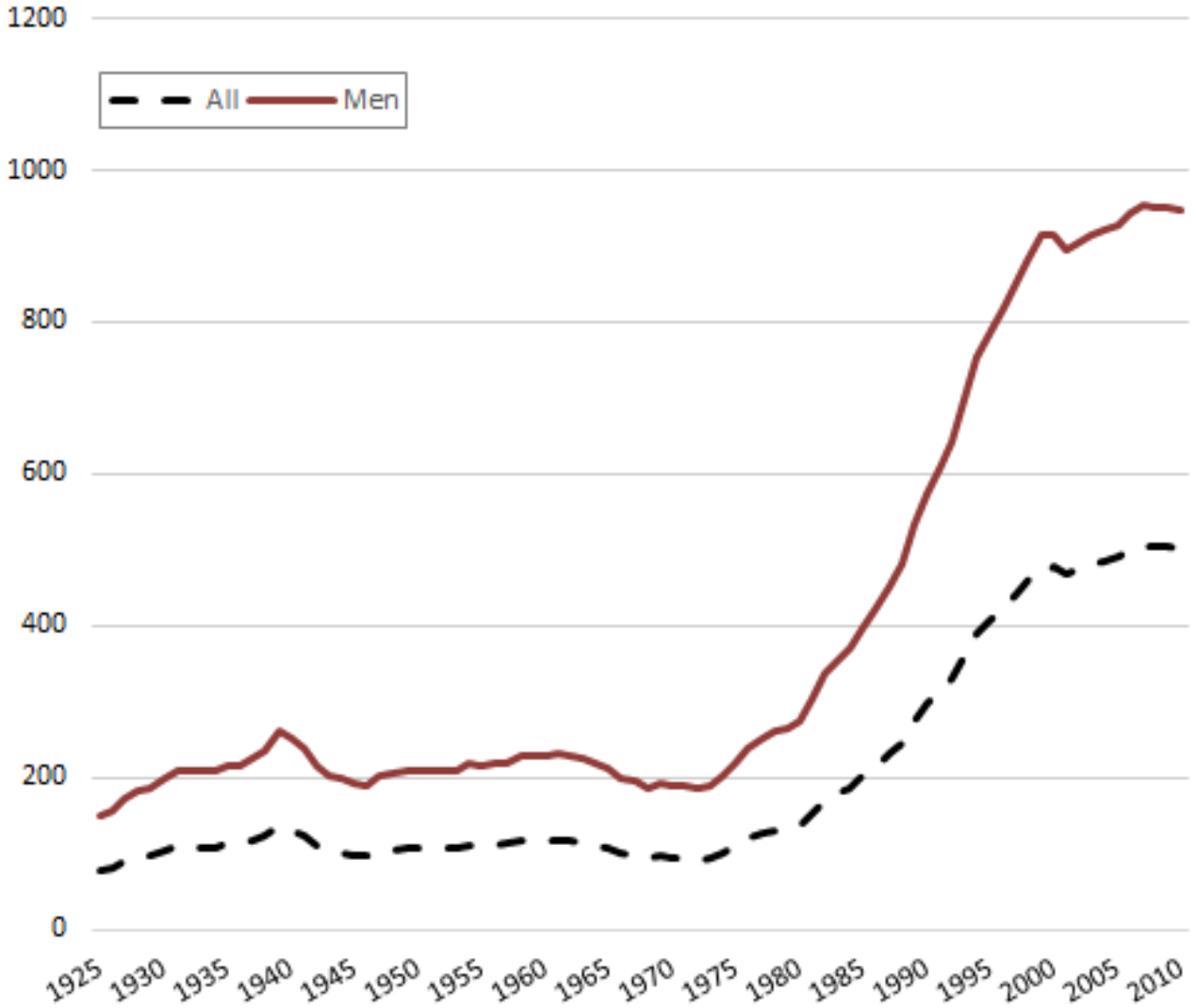
Figure: United States incarceration rate per 100,000 population, 1925-2010



Today's focus

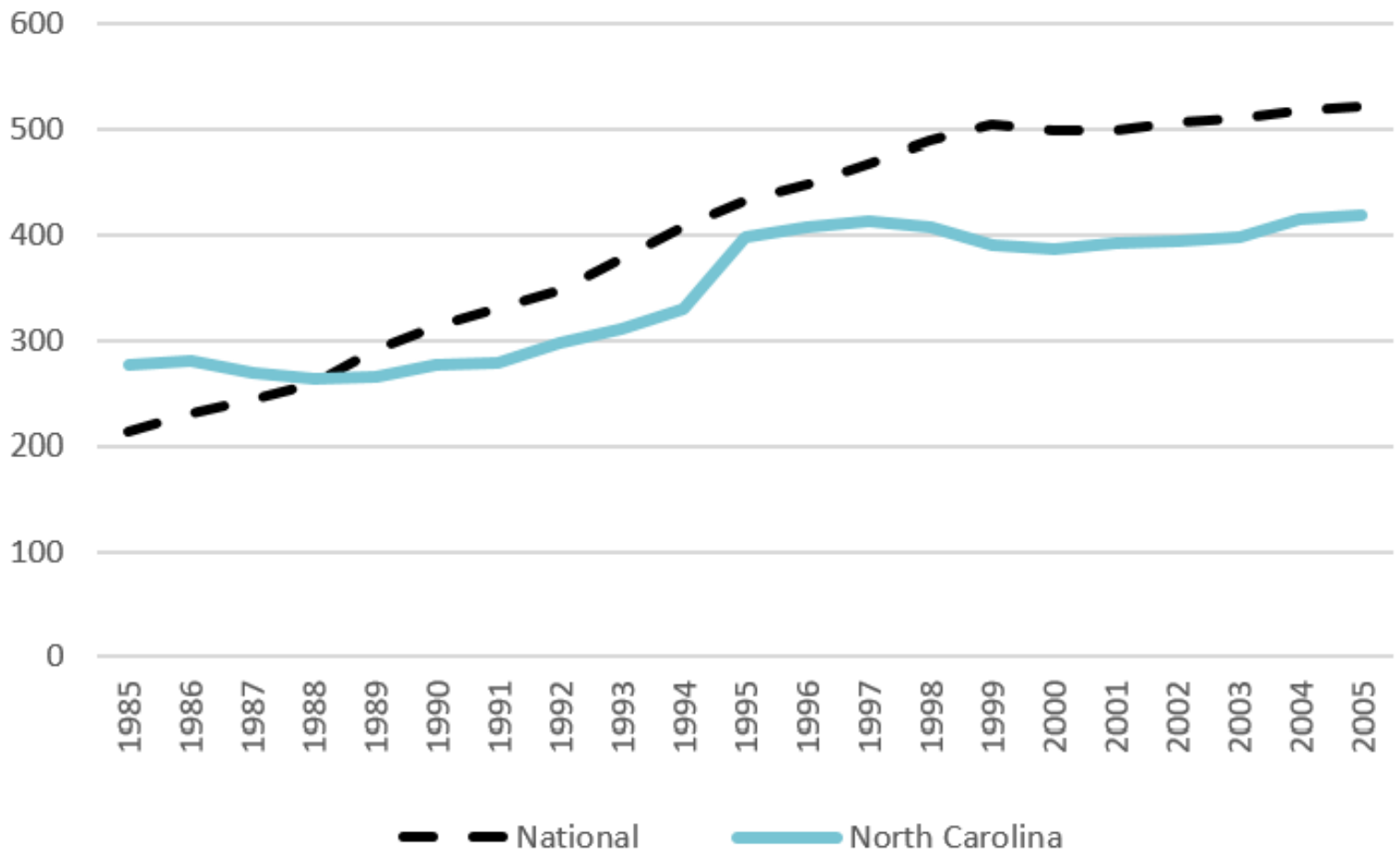
Research Question:	How does increased sentencing severity affect fertility, partner choice, marriage?
Variation :	North Carolina Sentencing Reform.
Assumption:	Observed changes are caused by policy.

Previous work

- Theory: Becker (1971, 1974, 1983)
  - Lundberg, Pollak, and Stearns (2016)
- Empirical work
  - War: Abramitzky et al (2011); Bitler and Schmidt (2011wp); Bethmann and Kvasnicka (2012); Brainerd (2017)
  - Incarceration: Charles and Luoh (2010); Mechoulan (2011)
- ★ My contribution: Different policy variation; focus on fertility as main outcome

INCARCERATION RATES, 1985-2005

Figure: Prisoners per 100,000 population: North Carolina and Nationally

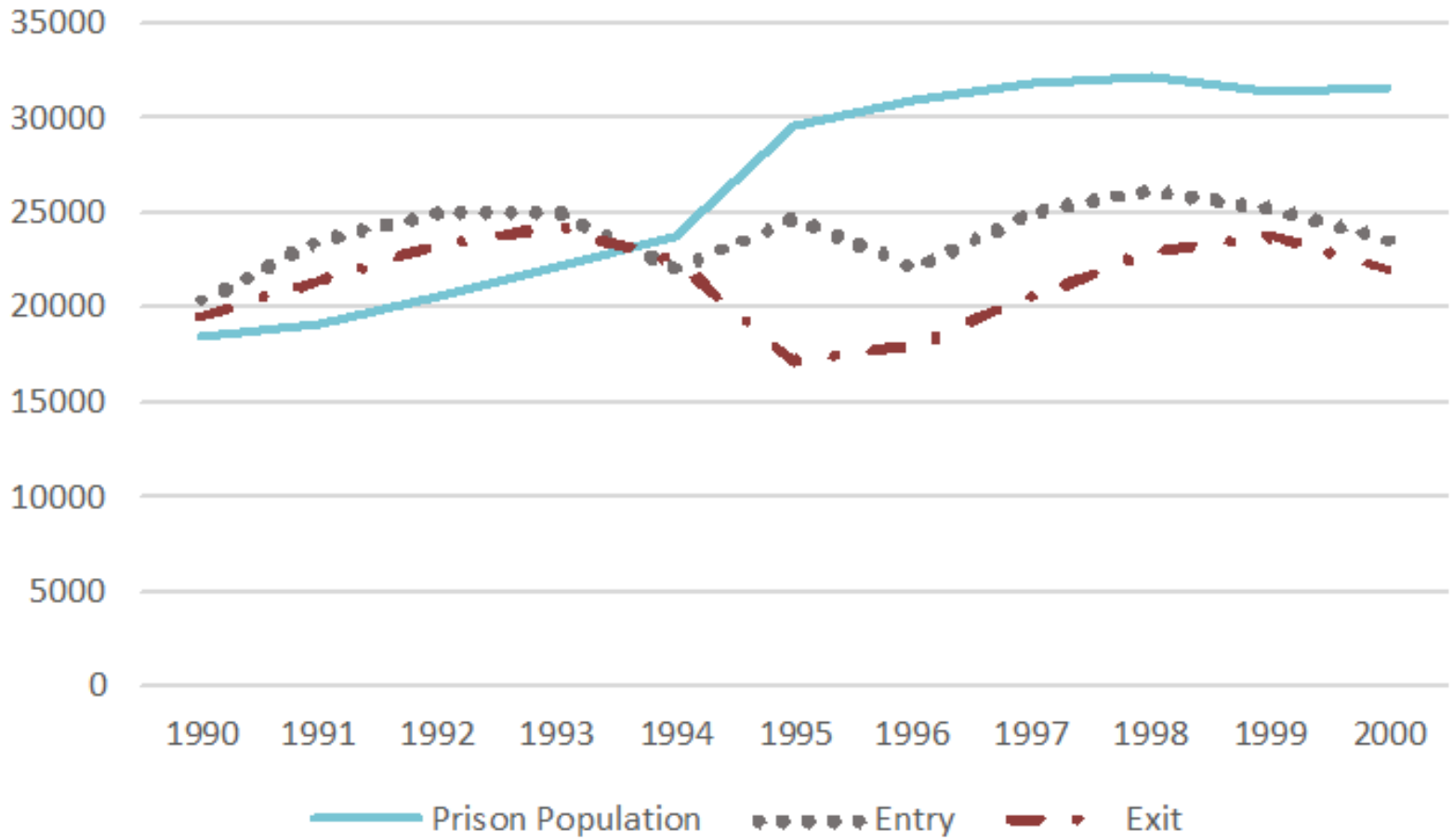


North Carolina Structured Sentencing Act

- Goes into effect October 1, 1994.
- The Act...

1. Created a detailed sentencing grid which greatly reduced judicial discretion; defined a maximum and minimum sentence.
2. Changed the earned time system to make it less generous to inmates.
3. Abolished discretionary parole.

Figure: North Carolina prison population, entry, and exit



Data sources

- Incarceration Data
  - Public offender data (Conviction based)
    - 1972-2017
    - Very detailed
- North Carolina Statistical Birth File
- 1990 and 2000 IPUMS Census Samples
- Surveillance, Epidemiology, and End Results Program (SEER)
- Supplemented with data from IPUMS, BLS, BJS, and the FBI

Summary

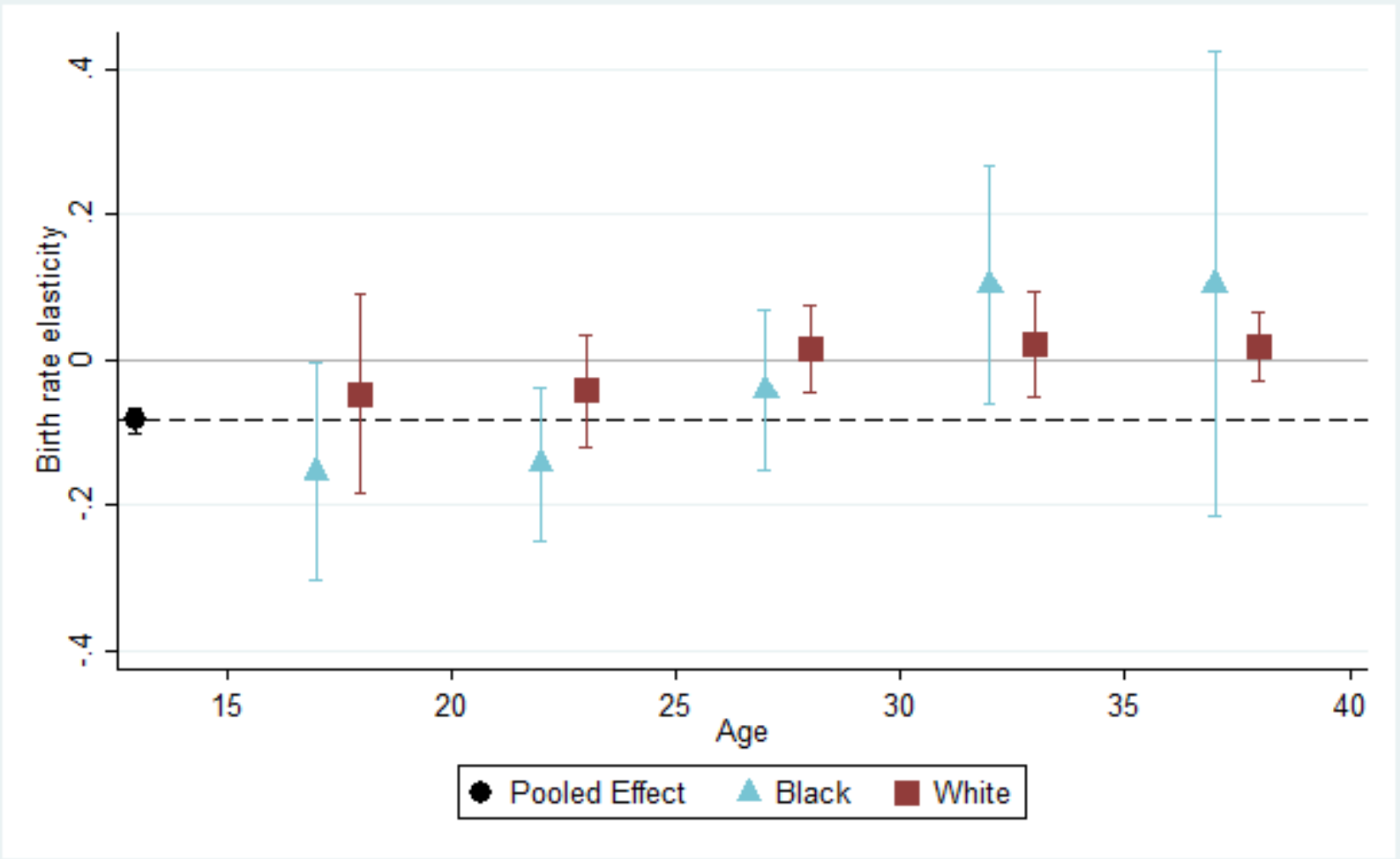
Fertility specification

- Intensity of treatment based on pre-period partner market (age-race-CZ) incarceration rates
  - Similar to Acemoglu and Johnson (2007), Bleakley (2007), and Lucas (2010)

$$Y_{\rho t} = f(\beta Post_t * \ln(\overline{IR}^{9093})_\rho, \theta \mathbb{X}_{\rho t}, \lambda_\rho, \gamma_t^A) + \varepsilon_{\rho t}$$

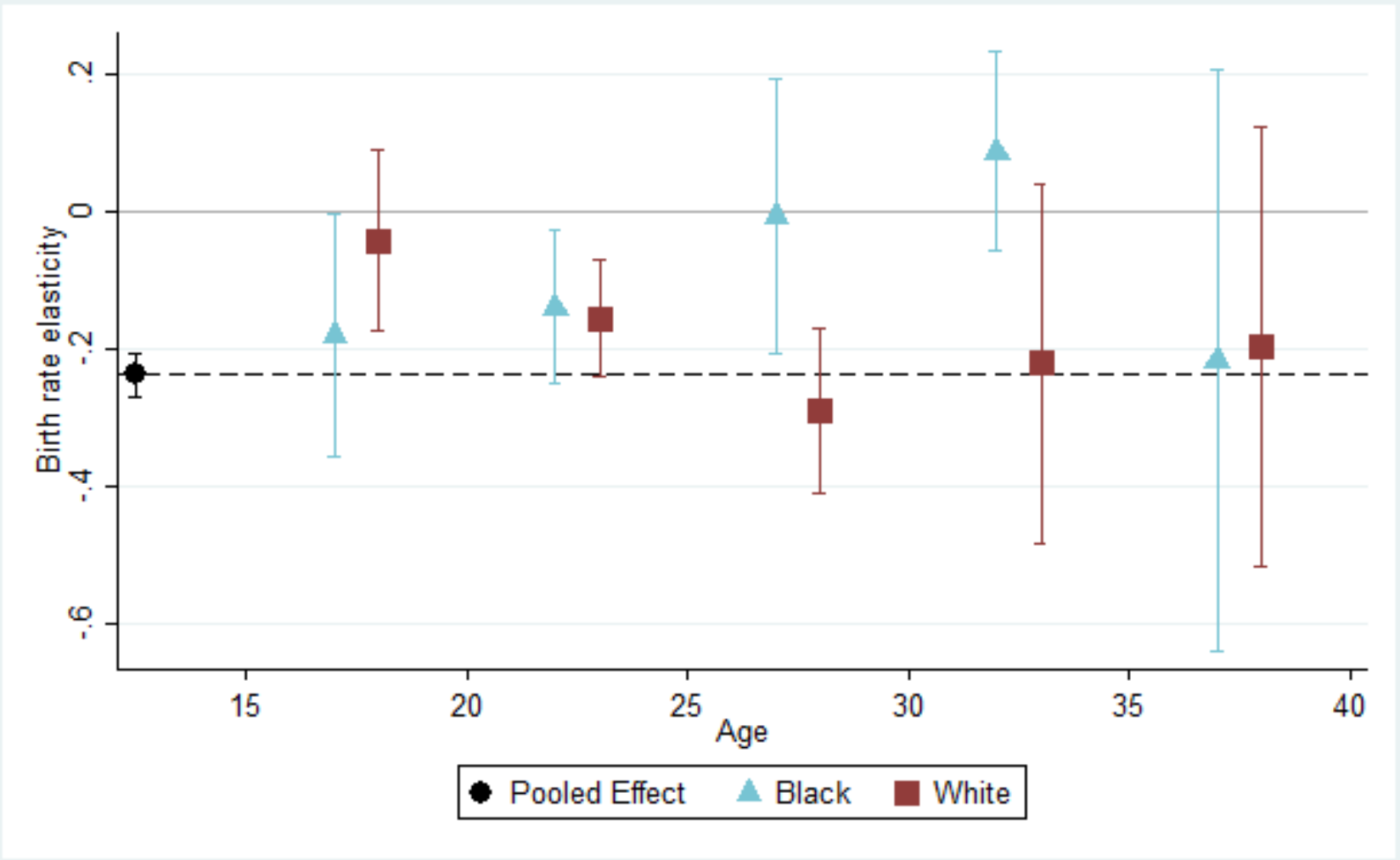
- $Y_{\rho t} =$
  - Number of births (Poisson)
  - Average reported paternal/maternal characteristics (linear)
- ρ=partner market, t=conception time

Fertility: All births



Table

Fertility: Unmarried women



Table

FATHER CHARACTERISTICS

	(1) Age diff	(2) Has less education	(3) Missing
A: Black women			
Post*9093 IR	0.280*	0.023*	0.013
	(0.102)	(0.011)	(0.023)
R-Squared	0.587	0.730	0.906
Cells	2188	2187	2267
B: White women			
Post*9093 IR	0.023	-0.000	0.020***
	(0.019)	(0.004)	(0.004)
R-Squared	0.910	0.725	0.932
Cells	2753	2753	2754

Notes: Observations collapsed into race-CZ-age group-halfyear cells. Includes years 1990-2000. Dependent variable is the cell average of the measure noted in the first row of the table. Regressions weighted by number of births in the cell. Standard errors clustered by CZ. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Marriage specification

Modify the first difference specification from Charles and Luoh (2010):

$$\Delta Y_\rho = \beta \ln(\overline{IR}^{9093})_\rho + \theta \Delta \mathbb{X}_\rho + \epsilon_\rho$$

- $\Delta Y_\rho =$ 1990-2000 change in married, divorced, never married, or cohabiting women in the partner market
  - $\rho =$ partner market

MARRIAGE: 1990-2000 DIFFERENCE

	(1) Married	(2) Divorced	(3) Never Married	(4) Cohabiting
A: Black women				
Post*9093 IR	0.001	0.004	-0.031	0.002
	(0.016)	(0.008)	(0.017)	(0.006)
R-Squared	0.022	0.038	0.130	0.158
Cells	114	114	114	114
B: White women				
Post*9093 IR	-0.014*	-0.002	0.027***	0.021***
	(0.005)	(0.004)	(0.005)	(0.004)
R-Squared	0.072	0.068	0.188	0.354
Cells	120	120	120	120

Notes: Observations collapsed into race-CZ-age group cells. Dependent variable notes in the table. Standard errors clustered by CZ. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Conclusion

- Partner markets most at risk of increased incarceration see reduced fertility, particularly for
  - Black women under age 25
  - Unmarried women
  - Shift in composition
- Is this a permanent change? Or a delay?
  - Find no evidence of a reduction in total fertility by ages 35 or 40
  - Details
- Find evidence of changes to assortative matching patterns for fathers
- Decrease in marriage for white women

Thank you!

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