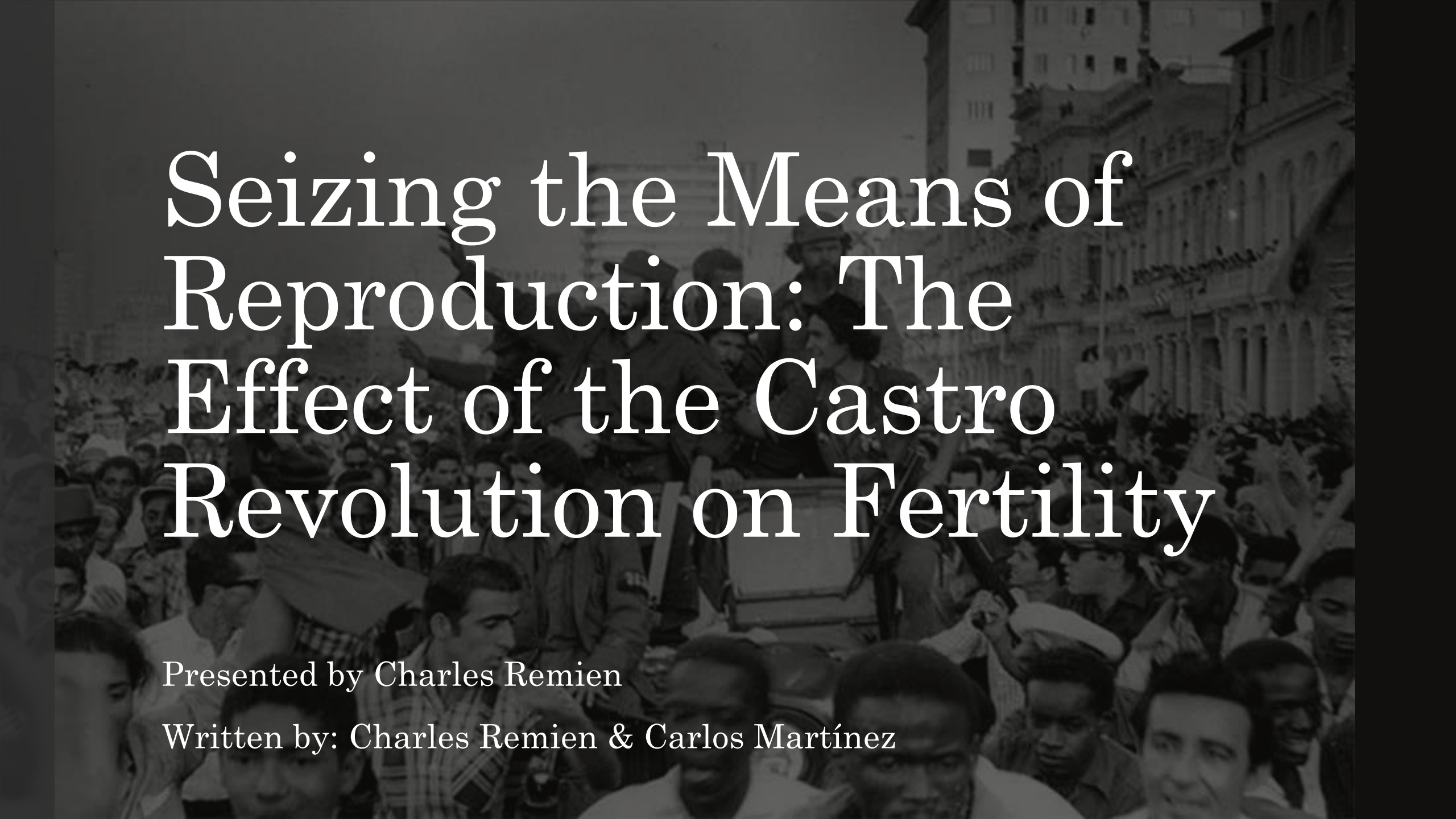




Seizing the Means of Reproduction: The Effect of the Castro Revolution on Fertility

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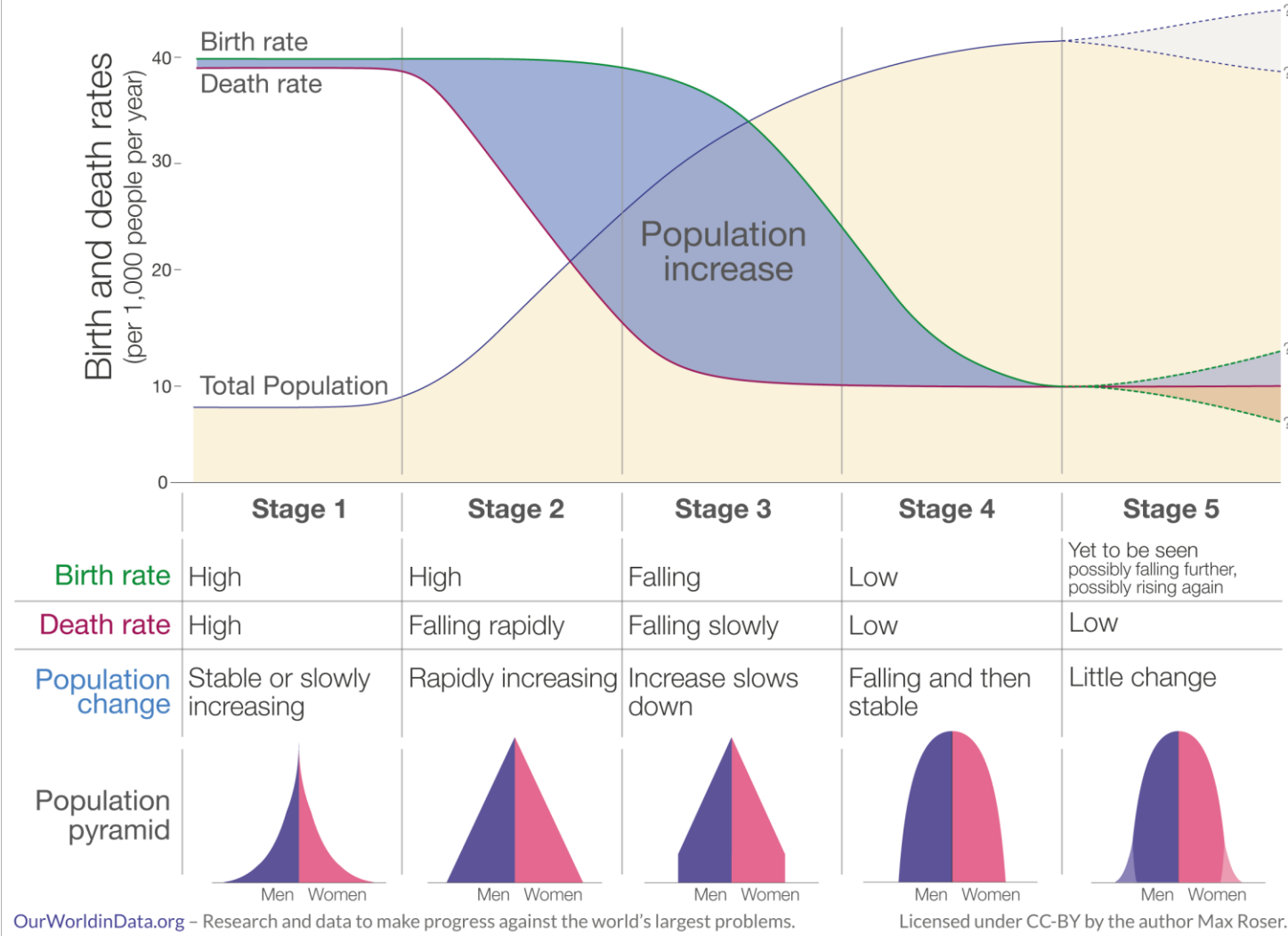
The Basics of Fertility Economics

- **Fertility is a choice-** Humans have for thousands of years practiced behaviors to manipulate their own fertility
- **Opportunity Costs-**when the opportunity costs of having children are low, all else equal, people have more children
- **Parents value surviving children, not births alone**
- **First-Generation Economic Fertility Models**
 - **Income-** More income → Quantity vs. Quality tradeoff → Less Children
 - **Education-** Less available time/ higher Income → Higher Opportunity Costs → Less Children
 - **Urbanization-** More options for consumption → Higher Opportunity Costs → Less Children

The five stages of the demographic transition

The demographic transition is a model that describes why rapid population growth is a temporary phenomenon.

Our World
in Data



Cuban Fertility Before the Revolution

- **Fertility:** well below the Latin American average, comparable to Argentina
- **Infant mortality:** lowest in Latin America, on par with Western Europe
- **1959 snapshot**
 - **CBR:** 30.5 births per 1,000 people
 - **Infant mortality:** 32.1 deaths per 1,000 live births

Research Questions

1. Did the Revolution cause Cuba's post-1959 baby boom?



2. How much did the Revolution increase births relative to a Cuba without the Revolution?



3. How does accounting for infant mortality change the estimated demographic size of the baby boom?



4. Could worsening expectations of infant survival help explain the increase in births?

How Are
We
Measuring
Fertility
and Why?

Crude Birth Rates
(CBR)

Survival Adjusted
Birthrates (SABR)

Why The Focus On **Infant Mortality**?

The Revolution causally increased infant mortality (Geloso & Bologna Pavlik 2021)



Cuba's fertility and infant mortality rose together, temporarily reversing its demographic transition



Worsening infant survival expectations may themselves increase births (Becker and Barro 1988; Doepke 2005)

Empirical Strategy: Synthetic Control

Treated unit: Cuba

Donor pool: 13 American and Caribbean Nations

Pre-period: 1945–1958 (treatment in **1959**)

Predictors: Urbanization, Average Years of Schooling, GDP per Capita as well as matching CBR or SABR outcome in 1946, 1948, 1950, 1952, 1953 and 1957

We choose non-negative weights so **synthetic Cuba matches Cuba on these pre-1959 levels;**

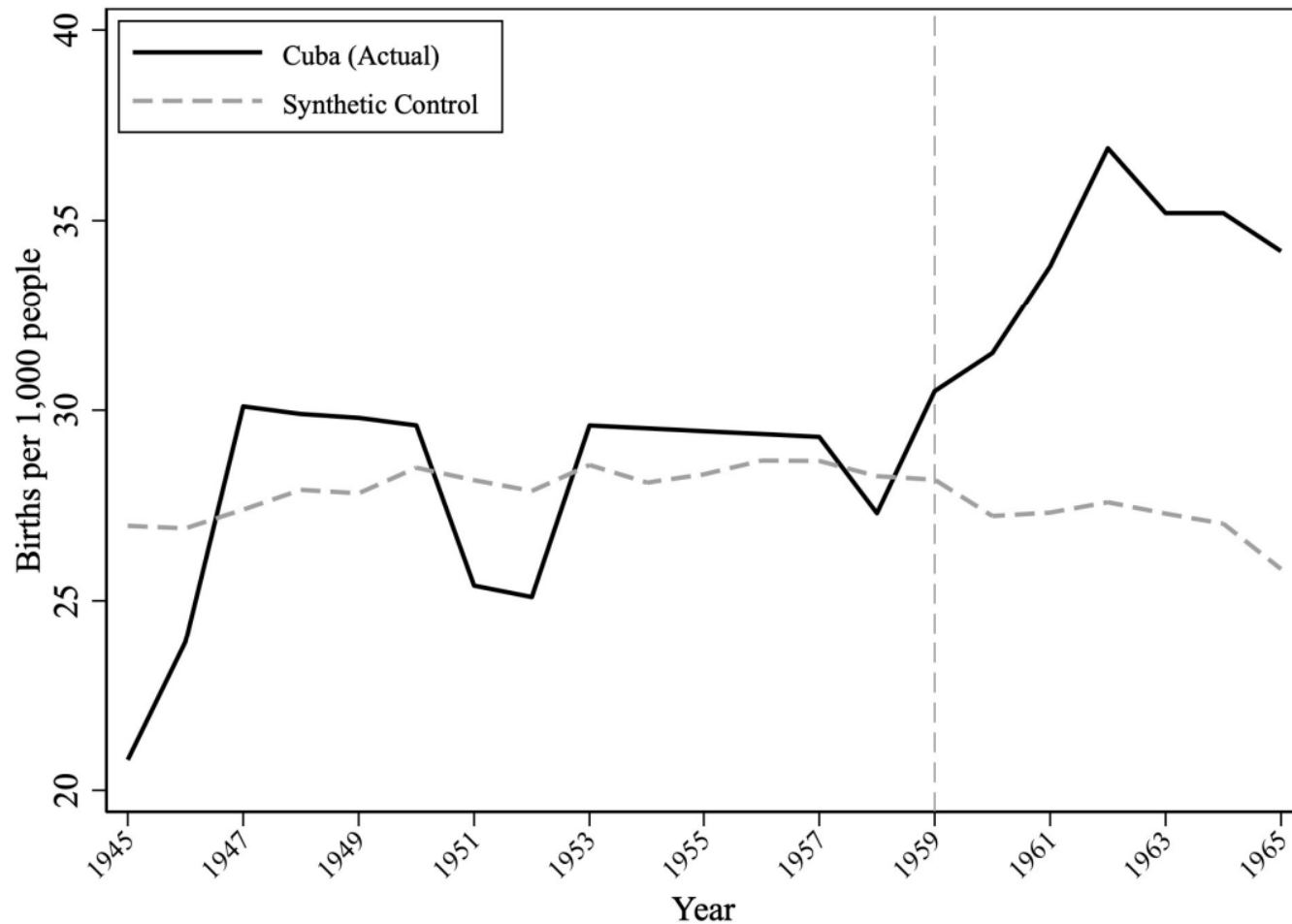
post-treatment period: 1959-1965: differences are the estimated treatment effect.

Table 1. Composition of synthetic Cuba.

Donor country	Crude Birth Rate	Survival-Adjusted Birth Rate
Argentina	0.728	0.593
Colombia	0.272	0.407
All other donors (11)	0.000	0.000
Pre-treatment RMSPE	2.465	2.334

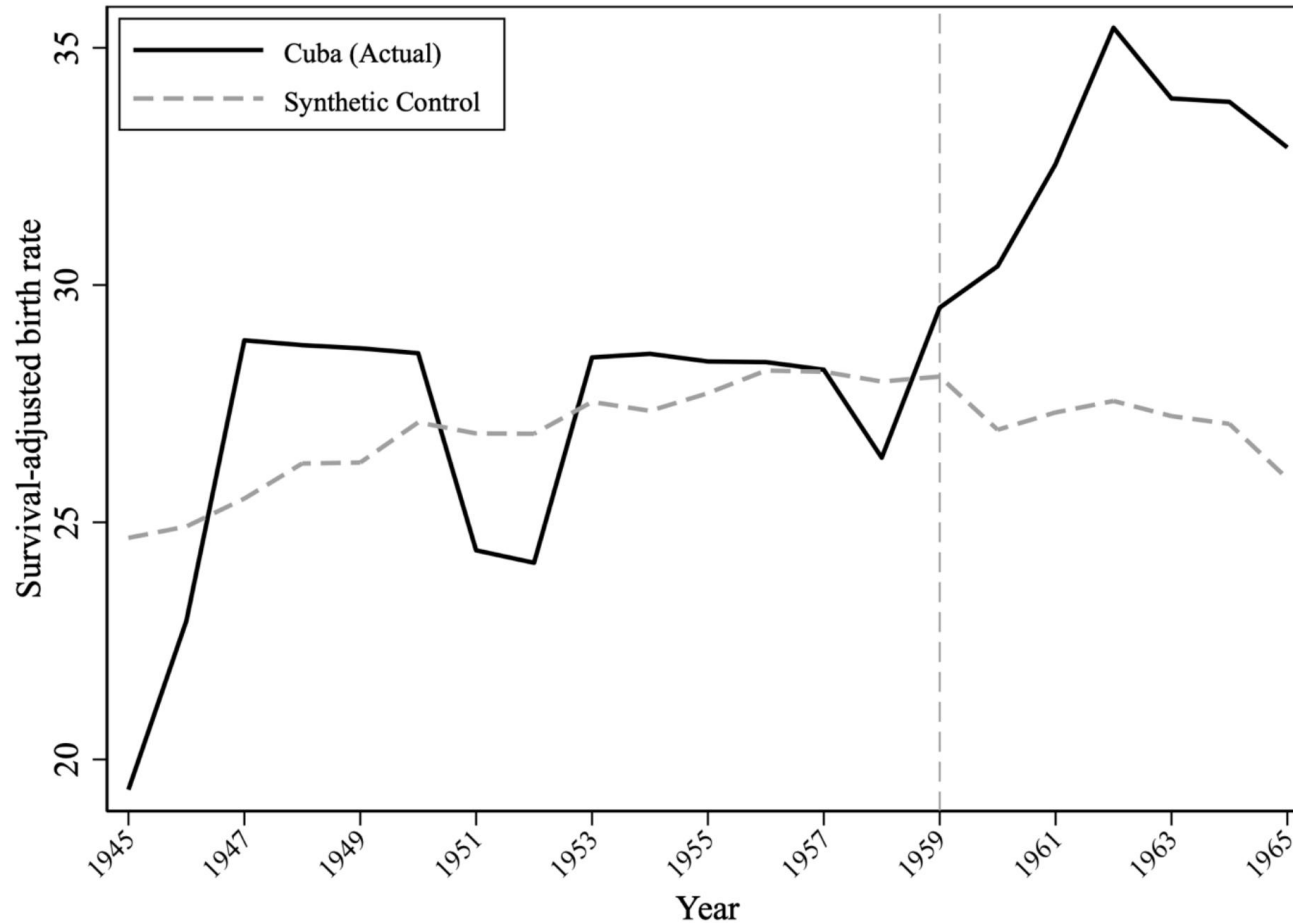
Notes: Weights from the synthetic control estimated over 1945 to 1958. Donors receiving zero weight in both specifications are represented by the third row. RMSPE is the root mean squared prediction error over the pre-treatment period, in births per 1,000 people.

Synthetic Cuba



The Revolution's Effect on CBR

- **Roughly 6.69 additional births per 1,000**
- **24.6% higher than the counterfactual**
- **P value of 0.071** which is the lowest possible given our doner pool from 1961 onwards



The Revolution's Effect on SABR

- Roughly 5.50 additional surviving infants per 1,000
- 20.2% higher than the counterfactual
- Significant ($p=0.071$) from 1962 onwards, ($p=0.143$) in 1961

Research Answers

1. Our results support a **causal relationship** between the Revolution and birthrates even when adjusting for infant mortality.



2. We estimate that the revolution **resulted in** 346,107 additional births above the counterfactual



3. Adjusting for infant mortality reduces the baby boom's estimated size by 17.9%, to 284,488 additional infants surviving their first year.



4. Our results support a Beckerian adjusted expectations interpretation, but further research will need to test this

What Does This All Mean?



This paper is the first to use causal inference to establish the Revolution's effect on fertility, and the size of that effect, in terms of both CBR and SABR



Adds the infant-survival mechanism as an additional possible explanation alongside the redistribution/access-to-abortion story first proposed by Díaz-Briquets & Pérez (1982) and Hollerbach (1980)



Uses data from Díaz-Briquets and Pérez (1982) to run a robustness check on the results, alongside several other robustness checks, and the results hold up



Future Research