

The Unintended Consequences of Relaxing Birth Quotas: Theory and Evidence

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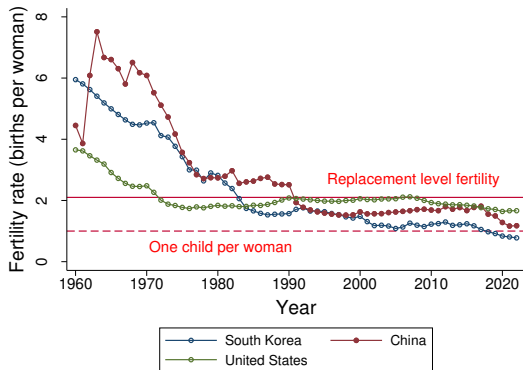
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Outline

- 1 Introduction
- 2 Theoretical Framework
- 3 Data Sources and Variables
- 4 Conclusion

Motivations

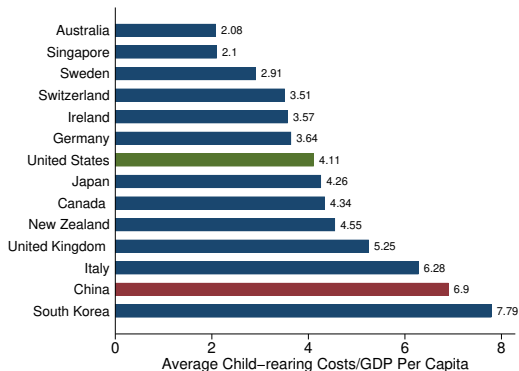


- South Korea: "Family Planning Program" in the early 1960s
- China: "Late, Longer, Fewer" Campaign in the early 1970s, One-Child Policy (OCP) in 1979
- Policy Shift: South Korea in 1996 and China in the early 2010s

Figure 1: Trends of fertility rates (1960-2022)

Data Source: World Bank

Motivations

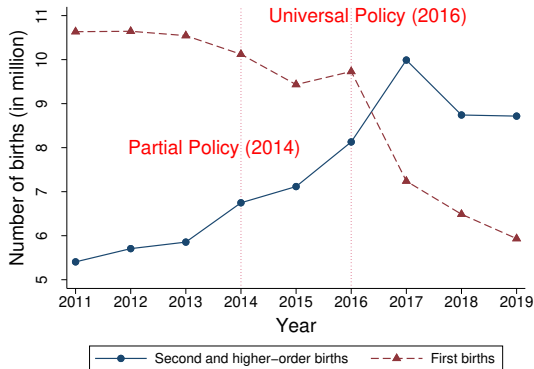


- High cost of child rearing to the age of 17: South Korea ranks highest, China second.

Figure 2: Child-rearing Costs by Country

Data Source: YuWa Population Research Institute

Motivations



- After China's relaxation of OCP: second and higher-order births increased, but first-child births decreased.

Figure 3: Number of births (2011-2019)

Data Source: National Bureau of Statistics of China

Research Questions

- Does the relaxation of birth quotas have asymmetric effects on fertility transitions along the extensive and intensive margins?
- If so, what is the likely underlying mechanism driving these shifts?

Main Findings

The theoretical model predicts that, in the short term, relaxing birth quotas

- \uparrow high preference household's fertility rate
- \uparrow or \downarrow low preference household's fertility rate;
- \uparrow child-rearing costs;

The empirical findings show that relaxing the OCP

- \uparrow second-child births
- \downarrow first-child births
- \uparrow child-rearing costs, a likely underlying mechanism for \downarrow first-child births.

- We extend the Barro-Becker framework (Becker and Barro 1988; Barro and Becker 1989) by incorporating birth quotas and heterogeneous fertility preferences by households into a dynamic general equilibrium model, and use the extended model to analyze the theoretical implications of relaxing birth quotas in the short term.

A 10% percent random sample of the 2015 population mini-census

- The census data contain rich details on childbirth for women aged between 15 and 50;
- We calculate the total monthly births as well as monthly births of a second (first) child for all 31 provinces from November 2014 to October 2015 .

The relaxation of China's OCP

- This policy was gradually adopted by province-level governments on different dates since early 2014;
- We assume that it takes at least 12(11) months on average for the policy to affect local second-child (first-child) births
 - 1 month for prospective parents to obtain a second-child birth permit from local authorities. which is not required for first-child birth;
 - 1 month to prepare and get pregnant;
 - 10 months to complete the pregnancy.

Changes in the average local costs of raising a child

- We collect data on overall CPI and CPI by expenditure categories in each province from August 2014 to July 2015;
- We assume that it takes at least 12 months on average for the policy to affect local child-rearing costs;
- Other measures of child-rearing costs
 - Housing price indices at the city level
 - Nanny wages at the household level

Prior Trends and Dynamic Treatment Effects

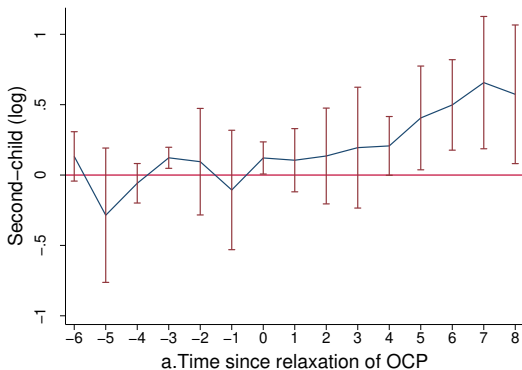


Figure 4: Prior Trends and Dynamic Treatment Effects of relaxing OCP on second-child births

Data Source: Chinese Population (mini-) Census in 2015

Does Relaxing OCP Affect First-child Births?

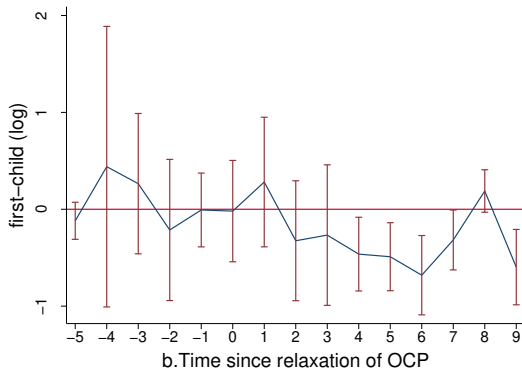


Figure 5: Impact of relaxing OCP on first-child births

Data Source: Chinese Population (mini-) Census in 2015

Does Relaxing OCP Affect Child-rearing Costs?

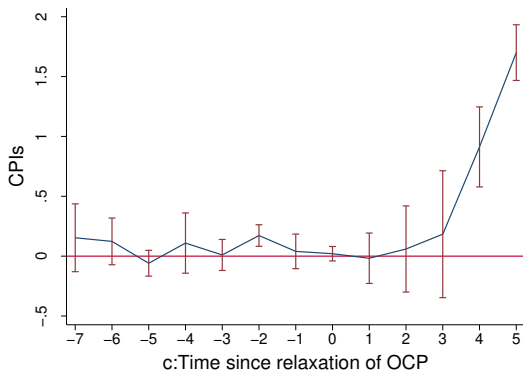


Figure 6: Impact of relaxing OCP on local CPIs

Data Source: National Bureau of Statistics of China

Conclusion

- This study investigates the effects of relaxing birth quotas on fertility transitions along both the extensive and intensive margins
- We show that relaxing the OCP does facilitate second-child births but also crowds out first-child births possibly due to increased child-rearing costs
- These findings suggest that policy makers should give priority to reducing the child-rearing costs borne by prospective parents rather than simply relaxing or even abolishing birth quotas universally when adopting policies to boost fertility rates.

Thank You!