Exploring the Sociocultural Factors Behind the Decline of US Birthrates*

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Since the early 21st century, birthrates in the United States have been steadily declining. This paper uses data from the American Economic Association to investigate the decline in birthrates in the US and to explore potential factors behind this phenomenon. Based on the exploration of the data, there is strong evidence that the differences in women's sociocultural values between generational groups are key players behind the decline of US birthrates since 2007. The results of this study are significant, as a country's birthrate is indicative its economic development, social dynamics and policy development.

1 Introduction

A birthrate is the average annual number of live births during a year per 1,000 individuals in the population at midyear (The World Factbook 2021). The National Center for Health Statistics (NCHS) gathers data on birthrates for women by different demographic factors such as age group, ethnic identity and education level. These information are compiled and made available through the National Vital Statistics System (National Center for Health Statistics 2024). Researchers are interested in a country's birthrate as it is a indicative of an economy's health and it is useful for population predictions. A declining birthrate tends to result in a smaller workforce and an aging population, which puts economic pressure on younger generations and on government spending (Pettinger 2021). Hence, in order to predict and reduce these consequences, many previous literature explore factors behind declining birthrates in the US such as cost of living, access to contraceptives and environmental concerns (Nargund 2009).

In this paper I am interested in the sociocultural factors behind the declining birthrates in the US. Using data from the the article "The Puzzle of Falling US Birthrates since the Great

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*Code and data supporting this analysis are available at: https://github.com/DeniseChang9/Covid-19_Cases.git

Recession" (Kearney, Levine, and Pardue 2022), I explore the differences in birthrates between different age cohorts for women from 1980 to 2020 for more insights on the influence of generational value gaps. I also take a closer look at the birthrates by state in which birthing mothers reside in to estimate whether regional values influence birthrates. I find that, although all age cohorts witness a decline in birthrates, younger age cohorts of mothers present a sharper decrease in birthrates than older age cohort. The data also suggests that states in the southwest of the US have a greater change in birthrates than states in the rest of the US.

The remainder of this paper is structured into 3 distinct sections. Section 2 discusses the data collection and the studied variables. Section 3 presents the results and finding of the exploration of the dataset with the help of visualized data. Section 4 explores further insights from the results and discusses a few weaknesses of this paper. This section also briefly mention potential next steps following this paper.

2 Data

2.1 Data Collection

The dataset used in this paper is obtained from the replication package of "The Puzzle of Falling US Birthrates since the Great Recession" (Kearney, Levine, and Pardue 2022) published in the Journal of Economic Perspectives (AEA 2022). The replication package contains dataset compiled from a variety of sources including, but not limited to, the National Center for Health Statistics (NCHS), the Current Population Survey Annual Social and Economic Supplement, the Integrated Public Use Microdata Series (IPUMS) and the New York Federal Reserve/EQUIFAX and the Pew Research Center.

For this study, I am interested in the aggregated data on birthrates by different age cohorts and by different state of residency of mothers. This dataset was built by Kearney, Levine and Pardue (2022), the authors of the replication package, using data from the NCHS microdata. The built dataset capturing birthrates by age cohorts organizes the mothers in 6 cohorts of 5 years from 1968 to 1997 inclusively. The built dataset capturing the birthrates by the state of residency contains data from 1990 to 2019 inclusively.

The dataset used for this paper was retrieved on February 5 2024.

2.2 Data Processing

The data was cleaned and processed using the statistical programming language R (R Core Team 2022). Statistical libraries such as `tidyverse` (Wickham et al. 2019), `janitor` (Firke 2023), `knitr` (Xie 2021) and `here` (Müller 2020) are leveraged in the data processing as well.

2.3 Variables of Interest

which variables am I interest in and why? why not other variables birth rate compiled using birth certificates : https://www.cdc.gov/nchs/nvss/births.htm

Show snippets of what I kept in the end (TABLES ONLY)

3 Results

Convey findings (USE GRAPHS) which had lower birthrate and which had higher birthrate? By how much different were they?

4 Discussion

4.1 3-4 sections interesting points

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- 1 section weaknesses of paper 1 potential next steps

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