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# Examining Trends in California's Birth Rates

## Technical Appendix

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## Appendix A. Data and Methods

Data for this report come primarily from five sources: federal and state administrative vital statistics birth records, population estimates from the California Department of Finance and the US Census Bureau, the June fertility supplement of the Current Population Survey (CPS), and the American Community Survey (ACS). The birth records contain birth data for every birth in the state. Birth records also include information on mother’s nativity, race, Hispanic ethnicity, age, and marital status. We use the combination of the race/ethnicity data and the nativity data to classify mothers as Asian or Pacific Islander (foreign-born or native), white (foreign-born or native), Latina (foreign-born or native), and Black (foreign born or native). Birth records record not only the year of birth of the child, but also the age of the mother.

We develop age-specific birth rates and total fertility rates by combining the vital statistics data with estimates of the population by nativity and race/ethnicity. We disaggregate population estimates by race/ethnicity, gender, and age into two nativity groups: U.S.-born and foreign-born. We use proportions foreign-born from the American Community Surveys of 2006 through 2022.

$$\text{TFR} = \sum_{i=15}^{i=49} \frac{B_i}{P_i} \times 1,000$$

We use the American Community Survey to examine trends in marriage as well as to provide some indicators of birth rates by socioeconomic status. We also report data on childlessness and children ever born. These data are derived from questions asked in the 1960, 1970, 1980, and 1990 Censuses and the June supplements of the Current Population Survey (starting in 2000). We restrict these analyses to women ages 40 to 44, as they have largely completed their fertility and the June CPS supplements do not include questions for women older than 44 years of age. For most results with the June CPS, we combine the sample across years because of small sample sizes.

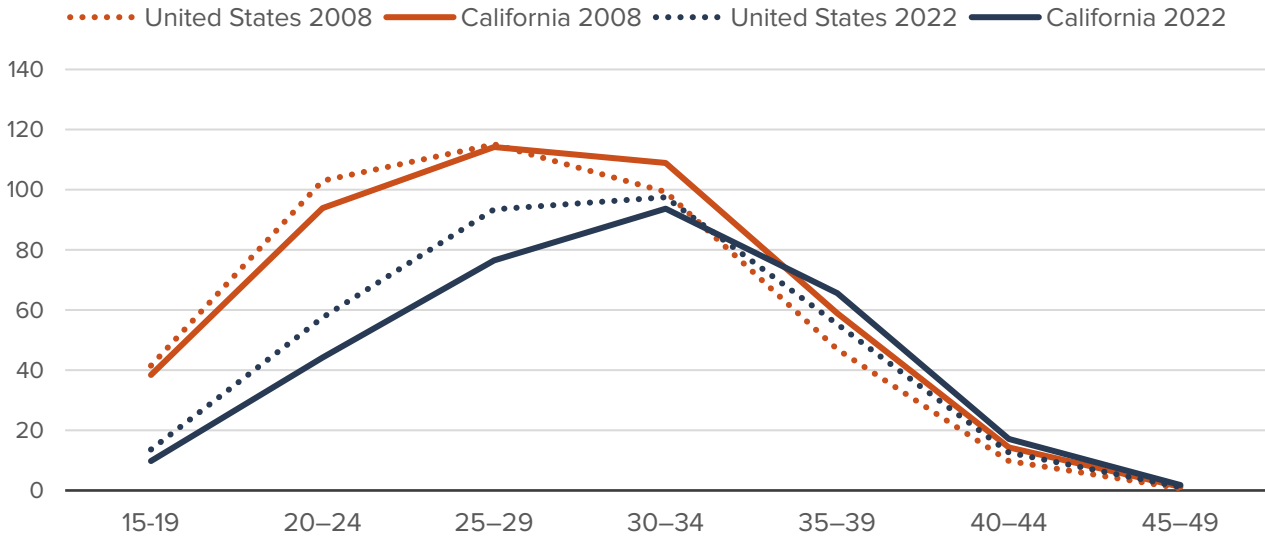
We also incorporate decomposition techniques and statistical analysis with logistic regression analyses to identify the factors associated with declines in birth rates. Our decomposition analyses focus on demographic characteristics, while our regressions include other economic and social characteristics.

Finally, for historical perspective, we use the crude birth rate (CBR). The CBR measures the number of live births per 1,000 population. Because it requires only two widely available numbers (total births and total population), it is easy to calculate and provides the longest historical record we have of these changes in birth rates.

# Appendix B. Additional Charts and Tables

**FIGURE B1**

Birth rates have declined sharply in both California and the nation  
Age specific birth rates (NCHS)

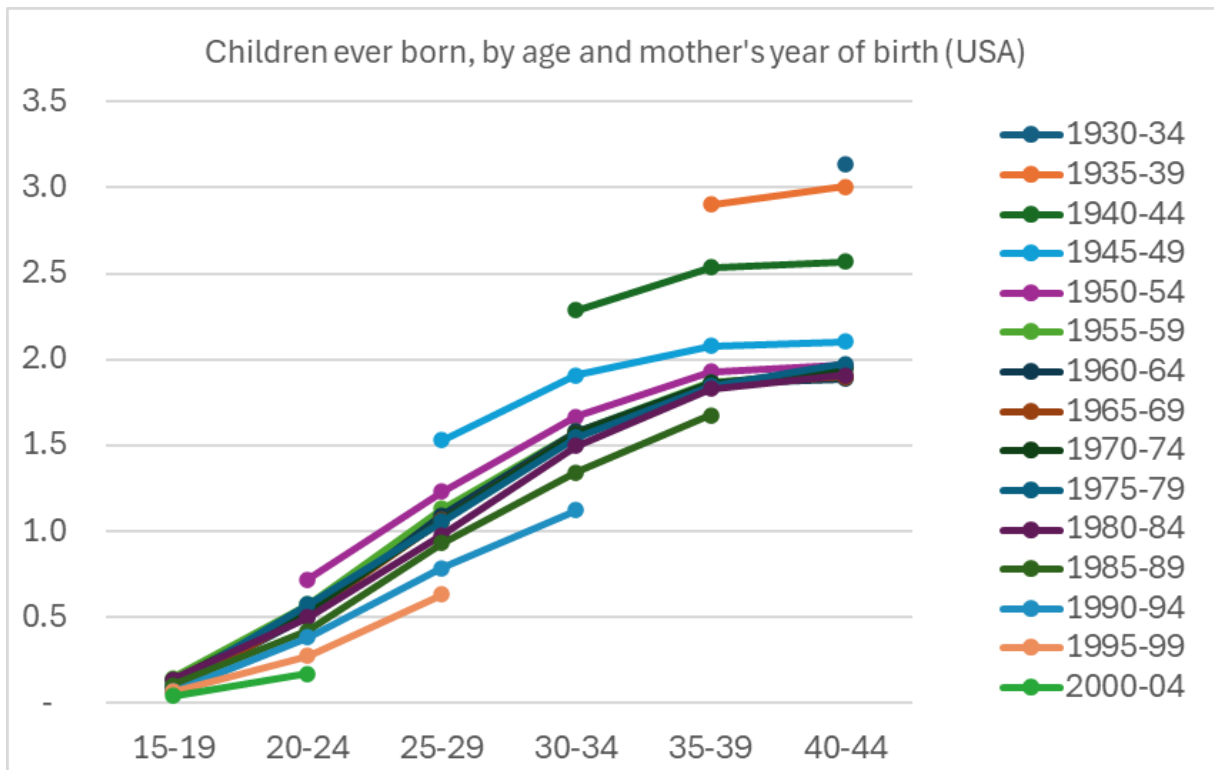


SOURCE: NCHS.

NOTE: Chart shows births per 1,000 women in each age group.

**FIGURE B2**

Younger cohorts are on track to having fewer children

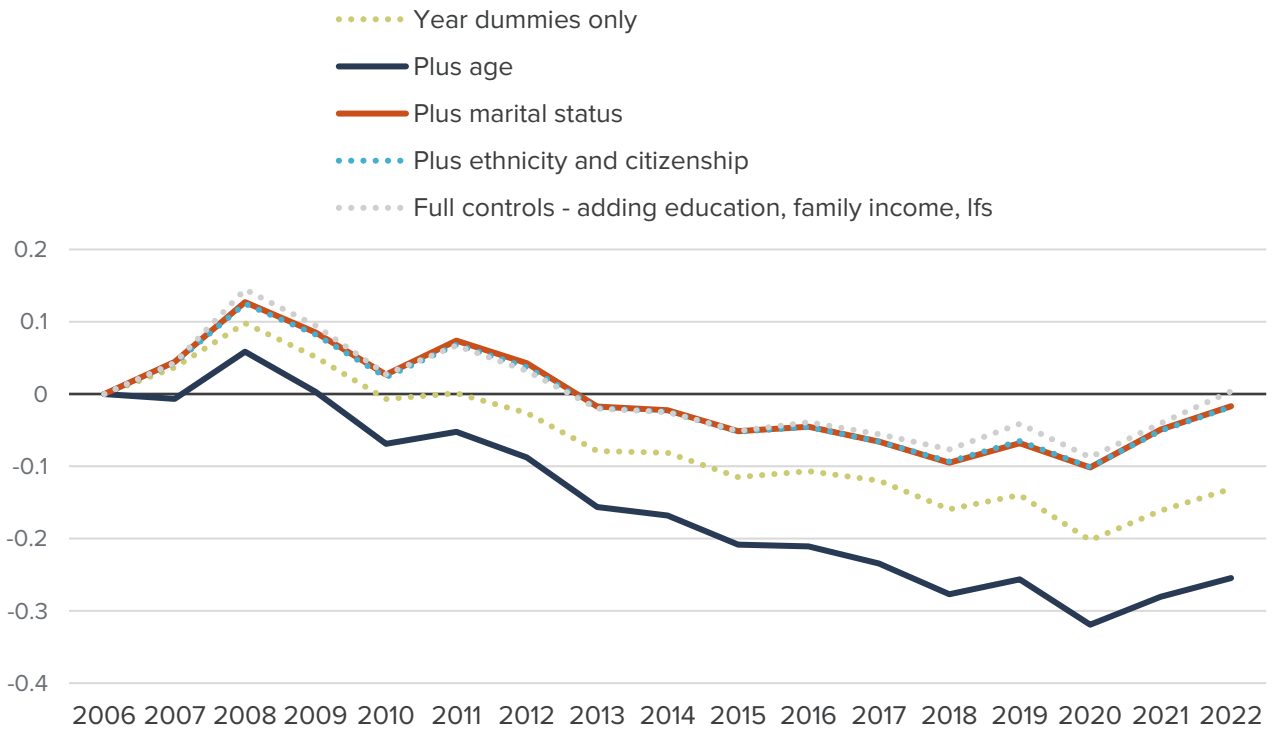


SOURCE: Based on women's response to a question on children ever born in the June fertility supplement of the Current Population Survey.

NOTE: National averages reported.

**FIGURE B4**

Marital status explains most of the decline in birth rates  
Logit models on birth in past year (year coefficient)

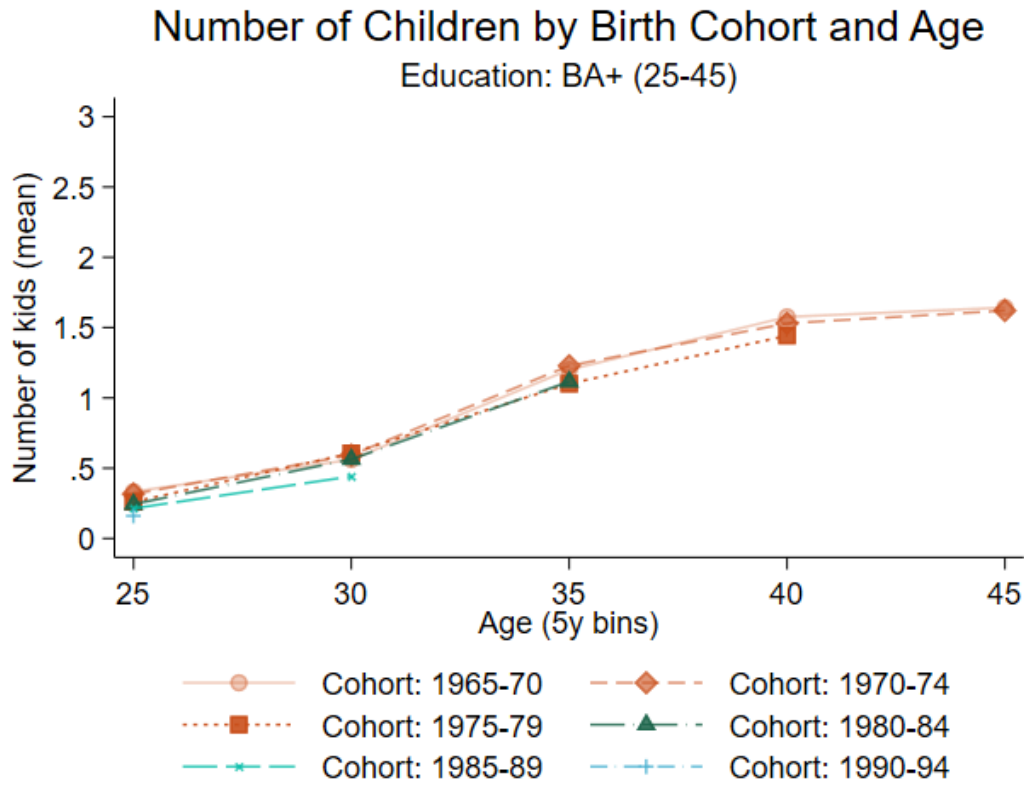


SOURCE: ACS restricted to women ages 15-50.

NOTE: Outcome is an indicator for women who gave birth in the past year. Models restricted to California women.

**FIGURE B5**

Average number of children by age and cohort, for those with a BA or higher

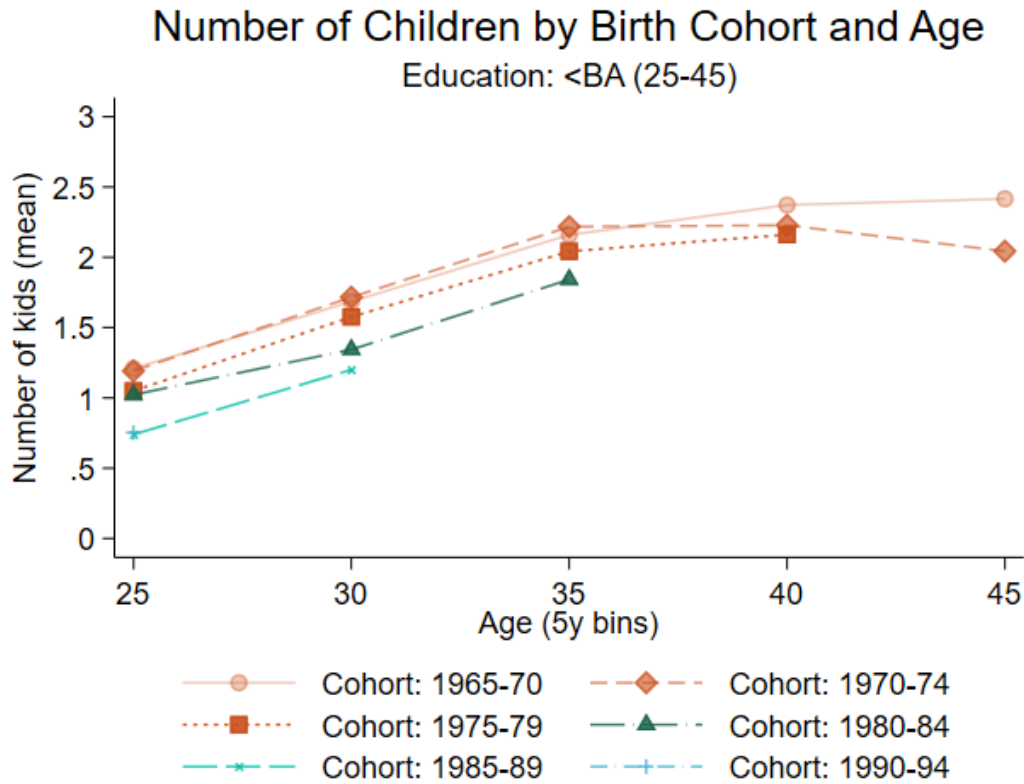


SOURCE: Current Population Survey, June Fertility Supplement.

NOTE: Average number of children ever born to women, by age and birth cohort. California-specific subsample. Data through 2022.

**FIGURE B6**

Average number of children by age and cohort, for those without a BA

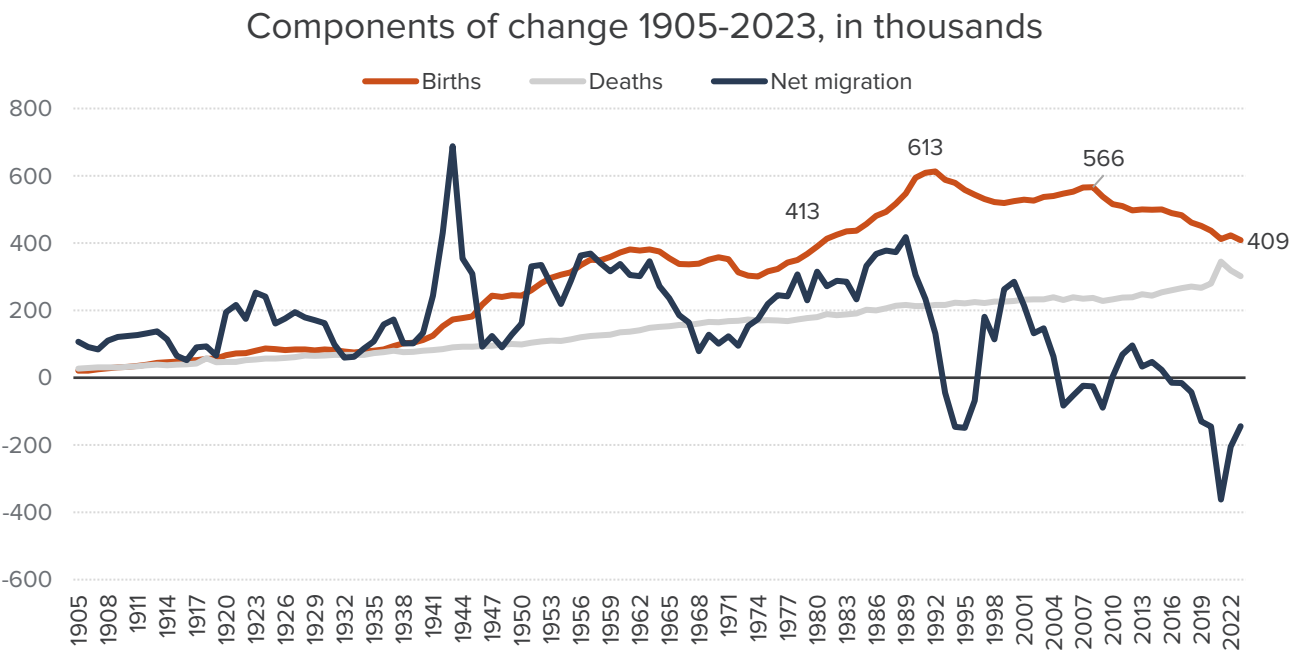
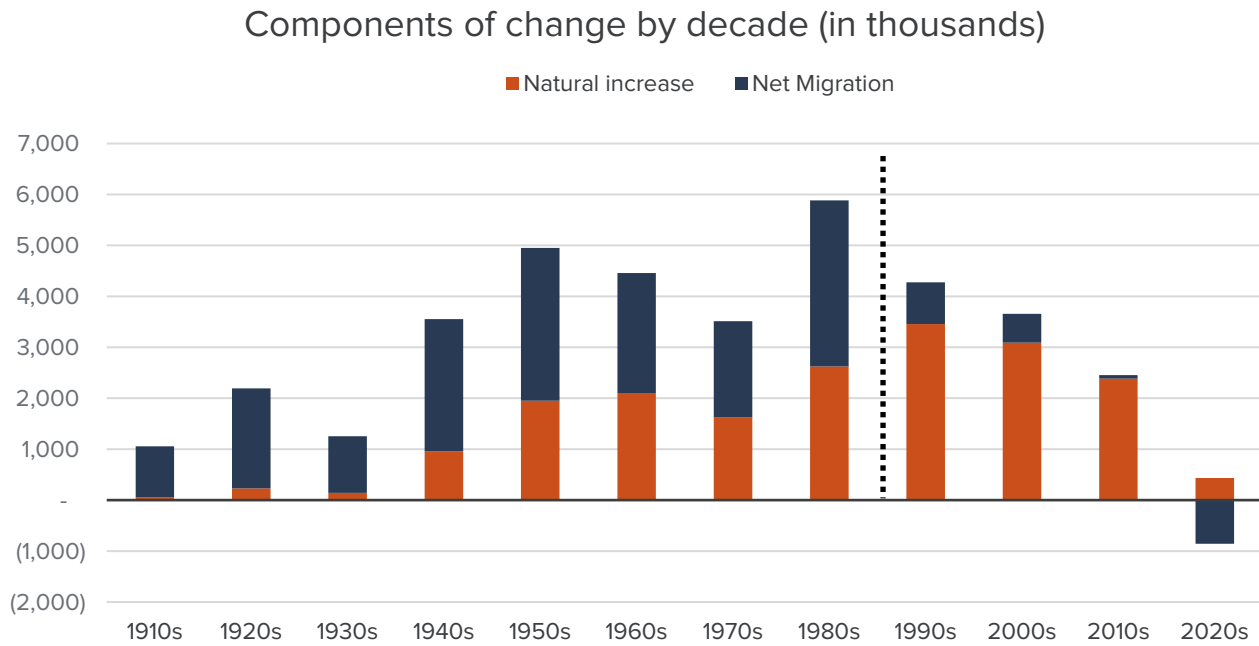


SOURCE: Current Population Survey, June Fertility Supplement.

NOTE: Average number of children ever born to women, by age and birth cohort. California-specific subsample. Data through 2022.

**FIGURE B7**

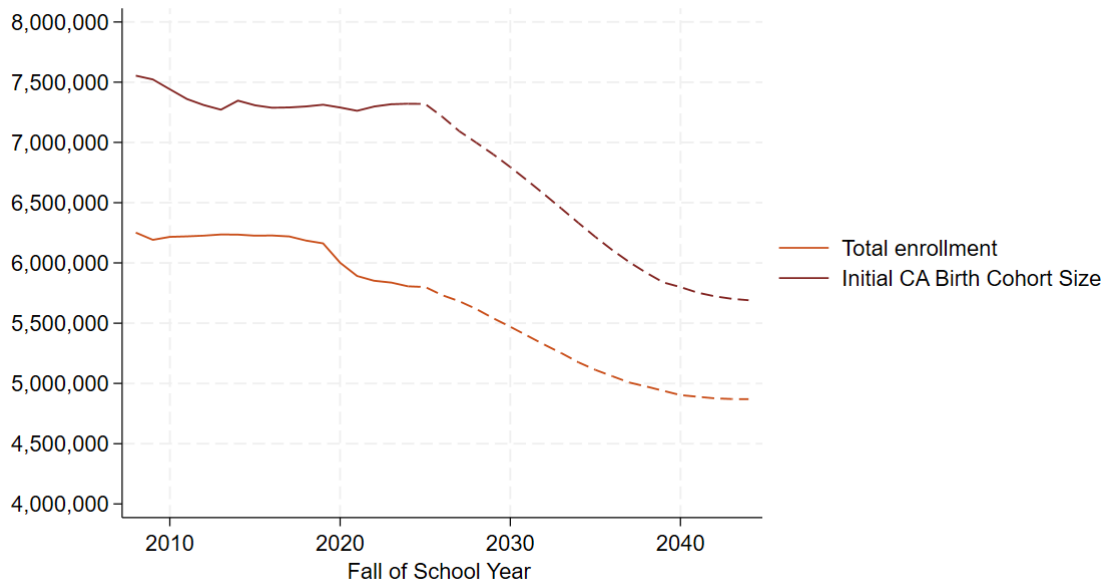
Components of California population change, by decade (top panel) and year (bottom panel)



SOURCE: California Department of Finance

**FIGURE B8**

Future projected declines driven by smaller cohorts of students born in California

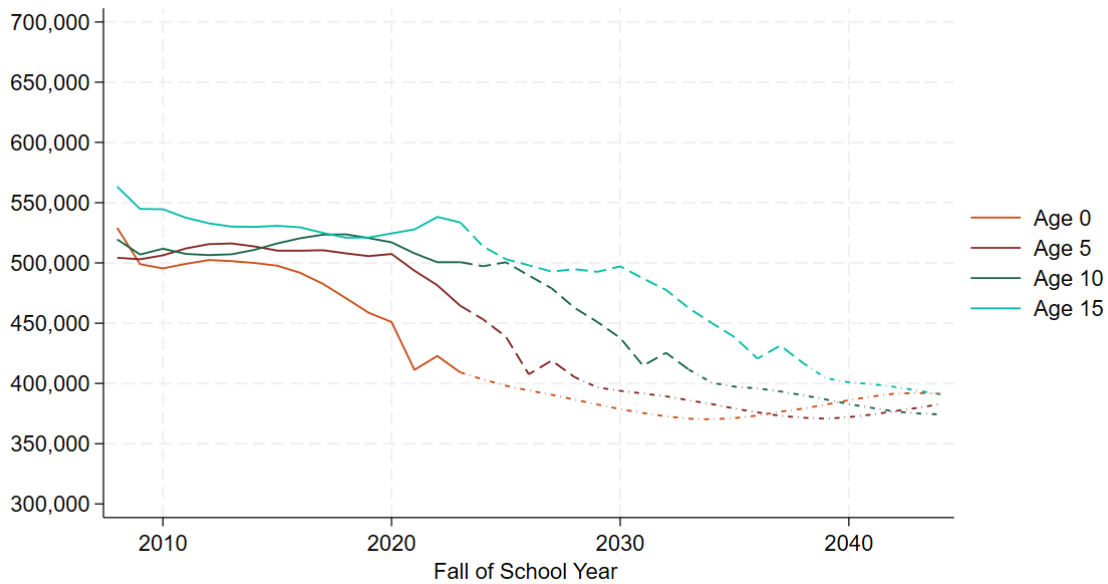


SOURCE: California Department of Finance; Authors' calculations.

NOTE: Dashed lines denote projected data. Orange line shows total public Tk-12 enrollment. Red line shows "initial CA birth cohort size", i.e., the size of each school-year cohort at birth.

**FIGURE B9**

Decline in school-aged children lags decline in births



SOURCE: California Department of Finance.

NOTE: Dashed lines denote projections; dotted lines denote projections relying on birth rate projections (e.g., children not born as of time of projections). Projections from 2023 series.



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