# Birth Rates Since 1994 for Women 20-34: Effects of Employment and Earnings Levels 

Steve Goss, Chief Actuary
Social Security Administration

$$
\begin{gathered}
\text { NBER Summer Institute } \\
\text { July } 24,2019
\end{gathered}
$$

## Birth Rates for the future

- The most critical parameter for the age distribution of the population, and thus the supply of working-age individuals as a share of total population
- Birth rates dropped after 1965, but returned to 2.0 for 1990-2007
- Tempo effects of women having children later
- On cohort basis, birth rates have remained above 2.0
- Birth expectation surveys continue to indicate 2.0 lifetime birth rate
- Will these expectations be met?
- Economic determinants have been negative since the recession.
- But prospects have been improving, gradually

Birth rates for women under age 25 started declining in 2000. Declines accelerated in the recession, but persist. Why?

Birth Rates for Women by Age Group Since 1994


About 3 in 4 births occur for women between ages 20 and 34 . Even with large declines for 20-29, total for 20-34 is down just 10\% from 1994.

Birth Rates for Women 20-34


So, why has drop in birth rates under age 30, and leveling at 30-34, not reversed as the economy has recovered since about 2011?

- Appears there is a significant lag between "economic" recovery and developing confidence of persistent improved conditions to support having a child
- Lag between change in economic conditions and change in birth rates:
- More immediate effect for negative economic changes, especially at ages 20-24
- More lagged effect for positive economic developments
- Tempo effect-shift in births from under age 30 to over age 30
- As occurred after the baby boom years
- Suggests there will be less recovery under age 25, and more above age 25
- So, under age 25 may stay low, while 25-29 recovers and over 30 rises
- Many other factors of course: increased debt for millennials, immigration etc.

Marriage prevalence has been declining steadily since 1994, in periods of high and low fertility, so does not appear to be a principal driving factor.

Percentage of Females Currently Married, by Age Group, 2019 TR


Employment, however, appears to be a very significant factor. Increases through 2000 appear to have lagged positive effects through 2007. Drops after 2000, furthered in the recession, affected fertility after 2007. Recovery since 2011 is having a substantially lagged positive effect.

Female Ratio of Employment to Noninst Pop; 1994=1.0


Male Ratio of Employment to Noninst Pop; 1994=1.0


Earnings levels in general (all ages) decelerated after 2000, but have begun to rise again recently.
Average Real Earnings All Female and All Male; 1994=1.0


For those under age 35, however, relative earnings levels fell after 2000, and even more in the recession. But they are recovering somewhat.

Female Ratio of Ave Earnings at Age to Average All Female; 1994=1.0


Male Ratio of Ave Earns at Age to Average All Male: 1994=1.00


## Combining the effects of employment and relative earnings level, we can

 see some recovery since 2011. How much lag for effects on fertility?Female Emp to Pop * Ave Relative Earnings; 1994=1.0


Male Emp to Pop * Ave Relative Earnings; 1994=1.0


## With employment and earnings rebounding for those under age 35 after 2011 lows, how lagged will positive effect be for fertility?

- Millennials have accumulated higher debt than prior generations
- It will take time, with improved employment and earnings, to offset debt and restore confidence in future economic prospects
- Since 2000, fertility has at least been stable at ages $30-34$, and has continued to increase at ages 35 and over. Will this tempo effect continue?
- Given the turn in the economy and the demand for labor in the future with an aging population, economic prospects for employment look favorable-but only time will tell

With employment and earnings rebounding after 2011 lows, recovery to pre-recession total fertility rate seems likely, with continued tempo effect.

Birth Rates for Women 20-34


