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Easterlin revisited: Relative income and the baby boom

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Abstract

This paper reexamines the first viable and a still leading explanation for mid-twentieth century baby booms: Richard Easterlin's relative income hypothesis. He suggested that when incomes are higher than material aspirations (formed in childhood), birth rates would rise. This paper uses microeconomic data to formulate a measure of an individual's relative income. The use of microeconomic data allows the researcher to control for both state fixed effects and cohort fixed effects, both have been absent in previous examinations of Easterlin's hypothesis. The results of the empirical analysis are consistent with Easterlin's assertion that relative income influenced fertility decisions, although the effect operates only through childhood income. When the estimated effects are contextualized, they explain 12% of the U.S. baby boom.

Keywords: Easterlin; Baby boom; Relative income; Fertility

1. Introduction

In the middle of the twentieth century, the United States and other developed countries experienced a prolonged period of elevated birth rates. The first viable and a still leading explanation for these fertility increases came from Richard A. Easterlin (1966). Easterlin hypothesized that the key factor driving these baby booms was the relative income of individuals of childbearing age. He suggested that when incomes are higher than material aspirations (formed in childhood), birth rates would rise. The cohort responsible for the baby boom would have had high relative income given that they entered adulthood in the prosperous post-war period and yet their material aspirations would be low because their childhood spanned the Great Depression. In this paper, I will reassess Easterlin's hypothesis with state income data that allows me to utilize a large sample of individuals from the U.S. census.

Easterlin's hypothesis proposes that individuals will develop material aspirations based on their childhood experience. If their adult income surpasses their material aspirations, they will feel richer and thus have more children. In Easterlin's model, an individual's income relative to their aspirations is more important to the fertility decision than their absolute income. Therefore, cohorts raised during hardship and entering adulthood in a period of prosperity would have higher birth rates than those who

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grew up in an affluent period but whose adulthood occurred during economically depressed years. His initial papers on the topic provided some empirical evidence for the theory by quantifying relative income as the income of households with a head aged 14–24 as a percent of income of households with a head aged 45–54 five years prior. In the aggregate time series Easterlin's relative income measure is highly correlated with the total fertility rate from 1950 to 1980.[1] Prior to World War II, detailed household income data was not available, and Easterlin used male employment as a proxy for relative income. This employment-based measure is highly correlated with the total fertility rate (TFR), as well. The positive relationship between relative income and fertility in the U.S. aggregate time series forms the bedrock of support for Easterlin's hypothesis. However, this aggregate relationship does not necessarily prove Easterlin's hypothesis because a third latent variable (such as marriage rates or educational attainment) could be driving both phenomena.

Easterlin's work has been the impetus for hundreds of studies, as researchers have tried to evaluate the validity of the hypothesis in a variety of contexts. Macunovich (1998) conducted a comprehensive review of seventy-six published papers and ultimately affirmed the hypothesis. According to Macunovich, about two-thirds of the surveyed research supports Easterlin's hypothesis. She surmises that methodological differences drive the results of the dissenting one third. She stresses that Easterlin must be taken on his own terms, a true test of his hypothesis should use age-specific, objective measures in the construction of his relative income variable. Furthermore, she emphasizes that relative income should be used alone and not in conjunction with absolute income due to collinearity issues. In this paper, my relative income variable will follow Macunovich's prescriptions and the cohorts in my sample will be those responsible for the baby boom and bust. In short, I will use measures of relative income as conceptualized by Easterlin and I will test its effect on the cohorts whose fertility behavior was the impetus for the Easterlin hypothesis.

This paper adds to the existing literature by testing Easterlin's hypothesis with a large individual data set and uses variation in annual state incomes during childhood to test the impact of relative income on fertility outcomes. My data and empirical strategy allow me to address criticisms of other papers that test the Easterlin hypothesis. I construct two main measures of relative income, the first is designed to proxy for the relative income measure used by Easterlin and the second is grounded in the psychology literature. I then test whether relative income at the state level impacts the completed fertility of women from the 1970, 1980 and 1990 censuses. Most importantly, I include birth-year fixed effects to control for unmeasured nationwide factors that would have influenced all people born in the same year. These birth cohort fixed effects significantly reduce the explanatory power of the relative income measure similar to Easterlin's. However, the relative income measure based in the psychology literature (my preferred measure) is robust to the inclusion of birth state and birth year fixed effects. The preferred relative income measure can explain 12% of the baby boom. Critics of the Easterlin hypothesis point to the fact that fertility has not cycled since the baby boom. I show that the primary influence of relative income in the baby boom was through the channel of low childhood incomes generated by the Great Depression. I also show that the effect of relative income fades for later birth cohorts. Given that there has not been income variation to the extent of which was engendered by the Great Depression, it is feasible that relative income could have been a driving factor in the baby boom but yet not a salient factor in fertility decisions for later cohorts.

This paper is most similar to two other studies: Lindert (1978) and Maxwell (1991). Lindert also used state level income and estimated the effect of income twenty years prior divided by current state income on the number of children per woman. Lindert's results were favorable to the Easterlin hypothesis. I also find support for the Easterlin hypothesis, but I improve upon Lindert's methods by using annual state income while Lindert relied on state level income at decade intervals. Further, I am able to contextualize the estimates within the baby boom. Similar to my approach, Maxwell used individual level data from a national survey (the National Longitudinal Survey) and examined the effect of relative wages on fertility. She also found support for the Easterlin hypothesis. Maxwell used variation between cohorts while I estimate the effect of relative income based on variation both between and within a birth cohort. Further, Maxwell is concerned with only age at first birth while I estimate the effect on a range of fertility outcomes.

In recent years, several new theories about the baby boom have emerged. Doepke et al. (2007) suggest that increased female labor force competition from older women who had entered the labor force during WWII decreased the age of marriage (thereby increasing birth rates) for women who entered adulthood after WWII. In a

[1] An extension of Easterlin's hypothesis is that relative cohort size should also impact fertility because relative cohort size is related to relative income. Small cohorts face less labor force competition and thus will earn higher wages at younger ages. Several papers have examined the relationship between cohort size and fertility (see Waldorf and Byun, 2005 for a review of these studies). In this paper I focus on only the relative income aspect of Easterlin's hypothesis.