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Maternal Health and Fertility: An International Perspective

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Abstract

A number of advanced economies experienced sizable and extended baby booms starting in the late 1930s and ending in the early 1960s, followed by pronounced baby busts during the 1970s, while other economies underwent a virtually uninterrupted decline in fertility throughout the course of the twentieth century. We examine the role of the dramatic improvements in maternal health that started in the mid 1930s in this boom-bust pattern, as well as other factors, such as the decline in infant mortalities, the rise in wages and output, the transition from agriculture to industry, and the role of World War II.

To guide the empirical analysis, we develop a model of fertility choice with endogenous human capital that incorporates both maternal and infant mortality. A permanent improvement in maternal health initially increases fertility and generates a rise in women's human capital, if initial fertility and initial infant mortality are sufficiently low. The resulting rise in the opportunity cost of children leads to a subsequent decline in desired fertility. The size of the initial boom is positively related to the magnitude of the decline in maternal mortality, while the size of the bust rises with the returns to human capital.

We examine these predictions empirically, using newly digitized data on maternal mortality for 25 advanced and emerging economies between 1900 and 2000. We find that baby booms occurred only in countries that experienced a large decline in maternal mortality and that had initially low fertility, confirming a key prediction of the theory. Fertility peaked between 10 and 15 years after the start of the maternal mortality decline, and rose between 10 and 40% percent. Baby busts were more pronounced in countries with high income per capita, high proportion of industry and high levels of secondary education. This suggests that high returns to human capital were positively linked to the baby busts. We also show that the female-male differential in educational attainment grew more in countries that experienced a large maternal mortality decline, consistent with the theory. We also find that the decline in infant mortality was an important determinant for the negative trend in fertility and the positive trend in education for all the countries in the sample.

The analysis provides a new perspective on the international variation of fertility during the twentieth century. It also suggests that medical progress, which was responsible for the decline in maternal and infant mortality, can provide an integrated explanation for the mid-twentieth century booms and busts in fertility, as well as its long run decline, and for the rise in female-male differential in educational attainment as well as for the growth in human capital.

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