

How Japan and the US Can Reduce the Stress of Aging

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The Japanese are becoming older. Americans are also becoming older. But an older population is not necessarily a bad thing. A primary worry with an aging population is the growth of the dependency ratio (DR)—often measured as the ratio of the young (0 to 14 years) plus the old (65 years plus) relative to all others (15 to 64 years). The actual amount of demographic stress in Japan, measured by the DR, is currently about 0.64. In the immediate pre-WWII era the DR was around 0.70 largely because Japan's total fertility rate (TFR) from 1925 to 1940 had been in the 4.1 to 5.1 range. As the TFR began to decline in the post-WWII era, the DR fell and hit a nadir of 0.44 in 1990. But with declining fertility and rising life expectancy, the DR began to shoot up around 1995.

In this short note I simulate how much of the change in the Japanese DR is due to increases in longevity and how much to declining fertility. I also assess the role of the "baby boom" of the late 1940s. I summarize only the fertility results here since changing mortality is not of policy relevance and is of lesser quantitative importance within relevant ranges.

Keeping fertility (and mortality and immigration) at their current levels until 2054 would produce a long-run DR of 0.88. Increasing fertility to 1.91, its 1975 level, would actually raise the DR in Japan to 0.67 today. But if the fertility rate were kept at 1.91 until 2054, the DR would level out at 0.73. Although the adjustment to the counterfactual fertility rate to 2014 was to increase the DR, the longer run DR is lower and the crossover year is 2030. Thus increasing fertility to its 1975 level would reduce the long-run DR by 15 percentage points.

Perhaps the most interesting of the counterfactuals concerns the post-WWII baby boom. The most reasonable counterfactual smoothes TFR from 1940 to 1950 and after

1950 uses actual values. The baby boom counterfactual DR looks identical to the real DR, showing that the Japanese baby boom, unlike that in the US, was compensatory in the sense that births to individual women occurred after the war rather than during the war.

The main points of this brief paper are that demographic stress—an increase in the dependency ratio—is apparent in many developed nations. Japan has experienced a larger increase because its fertility rate is low, its people are long lived and it has little immigration. Fertility is the biggest of the issues in Japan and its baby famine has similar causes to that in southern Europe.

The good news is that healthier older people with longer lives will continue to be employed for many more years than they were previously. Increasing the labor force participation of the older population is the most feasible way to avoid demographic stress. And better, “regular” jobs for Japanese women in their early to middle-aged years could also serve to increase the birth rate.