Chapter Title: Comment on "Demographic Transition, Human Capital Accumulation and Economic Growth: Some Evidence from Cross-Country and Korean Microdata"

Chapter Authors: Meng-chun Liu

Chapter URL: http://www.nber.org/chapters/c8155

Sachs, J. D., and A. Warner. 1995. Economic reform and the process of global integration. *Brookings Papers on Economic Activity,* Issue no. 1: 1–118.
Tamura, R. 1996. From decay to growth: A demographic transition to economic growth. *Journal of Economic Dynamics and Control* 20 (6–7): 1237–61.
World Bank. 2006. *World Development Indicator,* CD-ROM. Washington, DC: World Bank.

Comment   Meng-chun Liu

Motivation

Most previous articles on the subject argued that the economic growth, human capital accumulation, and demographic transition are all triggered by changes in fertility pattern. This is because the increase in working-age population ratio contributes to economic growth mainly by the increase in the labor supply. However, few empirical studies look at the issue based on endogenous economic growth theories with fertility choice based on the change in the returns to human capital. In order to bridge the gap, Hahn and Park intend to examine the issue with the evidence from cross-country data and Korea household data.

Contributions

As the main question asked by this chapter, will the higher speed of demographic transition of a country speed up both per capita income growth and human capital accumulation? This chapter suggests that the speed of demographic transition may matter for economic growth. In general, Hahn and Park's chapter provides some interesting arguments and ideas. I enjoyed reading this chapter, and have some comments at the same time.

First of all, similar to the direction of demographic transition, its speed has the significant role in driving economic growth. As argued in the chapter, fast demographic transition can speed up the accumulation in human capital, which enables developing countries to get out of the trap of "Malthusian equilibrium." Are there any other possible explanations? Suppose that the fast increase in working-age population ratio may enable an economy to accumulate physical capital stock soon. There is a higher saving ratio because of lower fertility and elder population.

Second, the speeds of change in working-age population ratio in East Asia and China are about three times as large as in developed countries. The authors provide the positive perspective on economic growth with high speed of democratic transition. However, can an economy with a low fertility

Meng-chun Liu is a research fellow and deputy director at Chung-Hua Institution for Economic Research (CIER).

rate sustain the higher economic growth, especially considering that the working-age population ratio will decrease soon?

Methodology

Hahn and Park perform empirical studies by adopting the cross-country data for two sub-periods: 1960 to 1984 (twenty-four years) and 1985 to 2004 (nineteen years). Are there any reasons why the authors choose such data of these two particular periods?

The study proposes three demographic indicators for measuring speed of demographic transition: fertility rate (SFRTIL), working-age population ratio (SWRATIO), and population growth rate (SPOPGR). However, are there any alternatives to capture the speed of demographic transition? We may consider two alternatives to measure the speed of demographic transition: the year average of difference in demographic indicator for a given time interval, and the estimated coefficient on linear time trend by a regression model.

In table 3.8, absolute value of SWRATIO is adopted to replace the original variable which may jointly proxy direction and speed of demographic transition. Is it possible to add a dummy variable for referring to the direction in the equation? In some way, we are able to measure both the direct effect and the speed effect in driving economic growth.

In models of per capita GDP growth, three variables, namely "initial GDP per capita," "openness," and "quality of institutions" are treated as the exogenous variables. However, argued by some studies, an economy's institutional quality and openness usually significantly determines its per capita income. That is, the regression model may have an endogeneity problem, more or less. Even in this chapter, such a problem may be minor or has been solved. The authors may need to mention how to solve such a problem.

Finally, as mainly argued in the chapter, the high speed of demographic transition features a country associated with economic growth. In some way, the authors may consider the existence of bidirectional causality between variables, economic growth, and demographic transition. In addition to regression analyses, a suitable quantitative approach to classify their Granger causality may be helpful, and their empirical evidence will be inspiring.

Comment   Chulhee Lee

Hahn and Park's chapter offers two types of empirical evidence as to the interrelationship among demographic transition, human capital accumulation, and economic growth. Firstly, based on cross-country regression analyses, it suggests that measures of the speed of demographic transition

Chulhee Lee is a professor of economics at Seoul National University.