Available online at www.sciencedirect.com
SCIENCE DIRECT®
Journal of Macroeconomics 28 (2006) 520–539
Journal of MACROECONOMICS
www.elsevier.com/locate/jmacro

Dispersion of human capital and economic growth

Jungsoo Park *

Department of Economics, Sogang University, Seoul, Korea

Received 21 April 2003; accepted 8 September 2004
Available online 28 July 2006

Abstract

Based on a theoretical consideration of human capital production technology, this study empirically investigates the growth implication of dispersion of population distribution in terms of educational attainment levels. Based on a pooled 5-year interval time-series data set of 94 developed and developing countries for 1960–1995, the study finds that dispersion index as well as average index of human capital positively influences productivity growth. Given limited social resources for human capital investment, the finding implies that education policy that creates more dispersion in the human capital will promote growth.
© 2006 Elsevier Inc. All rights reserved.

JEL classification: I2; J24; O4

Keywords: Human capital; Dispersion; Educational attainment; Economic growth

1. Introduction

Models of endogenous growth have pursued theoretical framework where persistent economic growth is conditioned on human capital accumulation, as in Lucas (1988) and Romer (1990). The implication of these models is that human capital is the driving force in the growth process of an economy. Barro (1991), Benhabib and Spiegel (1994), Dinopoulos and Thompson (2000), and many others find empirical evidence supporting these models, relating human capital with productivity growth. In these studies, human

* Tel.: +82 2 705 8697; fax: +82 2 704 8599.
E-mail address: jspark@sogang.ac.kr

0164-0704/$ - see front matter © 2006 Elsevier Inc. All rights reserved.
doi:10.1016/j.jmacro.2004.09.004

capital stocks are represented by average schooling years or enrollment ratio of the population which, however, may not appropriately reflect the actual capacity of aggregate human capital in an economy. It may well be that given the same average index of schooling, the economies with different distributions of population in terms of educational attainment levels may perform differently.

Education policy and structure of social incentive system regarding human capital accumulation will determine the distribution of population across various educational attainment levels. It is interesting to note that not only the average schooling years but also distribution of population in terms of different educational attainment levels varies widely across economies and across time. For example, although both Canada and Norway have similar average schooling years for their population, Canada's population is vastly more diverse in terms of its individuals' educational attainment levels than those of Norway.[1] Whether the structure of each country's distribution has any growth effect is an intriguing issue. This study defines the human capital dispersion of population as the degree of dispersion in population distribution in terms of educational attainment levels and empirically investigates the productivity growth implication of human capital dispersion based on a theoretical consideration regarding the form of human capital production technology. The findings will have a strong implication on education policy.

Theoretical consideration behind this inquiry stems from the generalization of the human capital production technology and the consideration of the measurement issue of human capital index. The common use of average index of schooling years to proxy human capital relies on the assumption that human capitals obtained from different levels of education are perfectly substitutable and that each additional educational year contributes to the productivity growth at a constant rate regardless of the education levels. Considering the fact that different types of knowledge are obtained at each level of education, a linear return function of education may be a crude approximation. If the return function exhibits convexity, implying that higher education contributes to productivity growth at a higher rate, a greater dispersion of a country's population distribution in terms of educational attainment levels would lead to a greater stock of aggregate human capital, given the same average schooling years in the population.

Recent empirical studies provide mixed assessments on the magnitude of social returns to human capital. When human capital is considered as a factor of input in a production function, empirical studies find that its impact on growth is insignificant as in Benhabib and Spiegel (1994), or even if it exists, that the returns beyond private returns are minimal or negative as in Pritchett (2001).[2] On the other hand, when human capital is considered as a factor influencing productivity growth as suggested in endogenous growth models, its impact is found to be significant as shown in Benhabib and Spiegel (1994), Dinopoulos and Thompson (2000), and Bils and Klenow (2000). These findings suggest an existence of strong externality arising from human capital investments. This study contributes to the literature by considering the growth effect of human capital dispersion of population. Based on a pooled time-series data set of 94 developed and developing countries for the

[1] The average schooling years for Canada and Norway are 10.50 and 10.85 in 1990, respectively. However, in Canada, the shares of population aged 25 and over with primary, secondary, and tertiary level of education are 16%, 34%, and 43%, respectively, whereas the corresponding figures are 11%, 70%, and 18% for Norway.

[2] Refer to Krueger and Lindahl (2000) and Temple (2001) for more discussions on empirical issues in measuring social returns to human capital.

دریافت فوری ← متن کامل مقاله

ISIArticles
مرجع مقالات تخصصی ایران

✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
✓ امکان دانلود نسخه ترجمه شده مقالات
✓ پذیرش سفارش ترجمه تخصصی
✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
✓ دانلود فوری مقاله پس از پرداخت آنلاین
✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات