

Human Capital in China*

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In this paper, we estimate China's human capital stock from 1985 to 2007 based on the Jorgenson-Fraumeni lifetime income approach. An individual's human capital stock is equal to the present discounted value of all future income it can generate. In our model human capital accumulates through formal education as well as on-the-job training. The value of human capital is assumed to be zero upon reaching the mandatory retirement ages.

China's total real human capital increased from 19.30 billion yuan in 1985 (base year) to 83.48 billion yuan in 2007, implying an annual growth rate of 6.66%. In particular, annual growth rate increased from 5.24% during 1985-1994 to 7.90% during 1995-2007. Per capita real human capital increased from 20,059 yuan in 1985 to 74,840 yuan in 2007, implying an annual growth rate of 5.98%. The annual growth rate also increased from 4.07% during 1985-1994 to 7.60% during 1995-2007. Therefore, although population growth contributed significantly to the total human capital accumulation before 1994, per capita human capital growth has become the primary driving force after 1995.

Since human capital accumulation is slower than GDP growth and physical capital accumulation, the ratio of human capital and GDP has declined from 21 in 1985 to 13 in 2007; while the ratio of human capital and physical capital has declined from 11 to 14 in 1985 to 7.5 in 2007. Although these values are not far away from those obtained in studies on other countries, they certainly raise questions about what, if there is any, are the optimal values for sustainable economic growth.

By 2007, total real female human capital is about two-thirds of total real male human capital; in 1985 it was about three-quarters of total real male human capital. However, female per capita real human capital is almost three-quarters of male per capita real human capital in 2007, indicating that a significant portion of the gap in total human capital can be attributed to population difference. Rural total real human capital was greater than that of urban in 1985, but urban overtook rural in the mid-1990s, and by 2007 urban total is about three-quarters larger than rural. Urban per capita real human capital increased from 33,742 yuan in 1985 to 103,946 yuan in 2007, while rural per capita real human capital increased from 15,789 yuan to 50,577 yuan. The urban-rural gap in real terms has stayed relatively constant.