

# An Estimation of Human Capital and an Analysis of Factors Making for Its Growth

Korea has shown only sluggish economic growth and low vitality as its economy has been through structural changes since the Asian Currency Crisis. On the demand side, a weakened linkage between domestic sectors - such as consumption and investment - and exports has badly damaged the foundation for sound growth, supported by domestic demand. On the supply side, structural changes, which give limits on economic growth engines, have been underway. Korea's growth paradigm seems to have entered a new phase since the Asian Currency Crisis particularly because low birth rates, an ageing society, and lackluster investment have significantly slowed down the growth of labor and capital inputs, thus, causing the quantitative input-based growth of factors of production to approach its ceiling.

Existing analyses of Korea's sources of economic growth show that the contribution to growth based on qualitative factors in Korea, such as total factor productivity, is much lower than that in advanced countries and that Korea has a growth pattern relying on the expansion in simple quantitative factor inputs. Therefore, in terms of structure the Korean economy needs to break away from quantitative input-based growth and to make a shift to growth led by innovation and productivity growth in order not to enter into a low growth phase. In an innovation-led growth phase, human capital serves as a critical factor. Hence, an in-depth analysis of the role of human capital in the process of growth in the Korean economy is needed. In addition, although the overall growth of the Korean economy has slowed down dramatically of late growth path differs in each industry. Consequently, sources of growth for each industry need to be accurately identified.

Reflecting this view, this paper carries out an estimation of changes in human capital by industry and total labor inputs, reflecting such changes, and performs a growth accounting analysis by industry. The analysis revealed that the overall Korean economy continued to show factor input-based growth during 1985~2005 and the contribution of total factor productivity to growth was relatively low. However, by industry sources of growth for the manufacturing sector differed greatly from those for the service sector. The manufacturing sector in Korea, as in advanced countries, was entering into a total factor productivity-led growth phase, while the service sector continued to show a labor input-based growth pattern. In addition, a recent large slowdown in growth of the Korean economy is analyzed to be mainly attributable to a slowdown in growth of capital inputs and lackluster productivity performance in the service sector.

Considering that increases in capital inputs and total factor productivity contribute to growth at a time of stagnant labor supply, as the experience of advanced countries reveals, the expansion of domestic investment and productivity growth in the service sector are urgently needed in order to strengthen the sources of growth of the Korean economy. In addition, constant efforts to correct the high cost structure should be made to revitalize domestic investment. Furthermore, uncertainties and various unreasonable regulations should be removed and the existing system improved in an effort to offer more incentives to enterprises making domestic investment. Moreover, the structure of the service sector should undergo a shift to focus on a high value-added business in order to increase contribution of the service sector to economic growth. To achieve that goal, the producer service industry should strengthen its competitiveness by growing bigger and more professional while the traditional service industry should boost its productivity through continuous ongoing structural reform. Furthermore, more efforts should be made to improve the quality of human resources, since the accumulation of human capital has played a critical role in the process of growth in the Korean economy.