'Differences in the endowment and acquisition of human capital account for differences in the economic development of countries.' Discuss with reference to India and the USA.

There are a number of factors responsible for differences economic development of countries. The more recent theories of economic growth stress the levels of endowment and the acquisition of human capital as one of the significant aspects that determine the rate of development of a country. Let us examine the thesis drawing on the examples of American and Indian experiences.

What is human capital? The basis of human capital lies in the theories of Schultz (1979) who produced the idea of human capital as a way of explaining advantages of investing in education to improve output. This linkage was then expanded to consider the relationship between education and improved productivity in the economy overall. Schulz demonstrated that the yield on human capital in the US economy was larger than that based in physical capital such as new plant and machinery. Gary Becker built on this idea claiming that the expenditure on education, training and medical care could all be considered as investments in human capital. 'They are called human capital because people cannot be separated from knowledge, skills, health or values in the way they can be separated from their financial assets' (Becker, 1990).

Firstly, consider some of the theories of economic development that focus on the role of human capital accumulation. Endogenous growth theorists believe that improvements in productivity can be linked to the pace of innovation and extra investment in human capital. The economists therefore stress the need for government and private sector institutions to provide incentive to markets which nature innovation. There is also a central role for knowledge as a determinant of economic growth. Endogenous growth theory predicts positive externalities and spill-over effects from developing a high value-added knowledge economy which is able to develop and maintain a comparative advantage in growth industries in the global economy.

Let us consider the model in more detail. Investment in human capital is believed to lead to a permanent increase in economic growth since the definition of capitals is broadened and the law of diminishing returns may not necessarily apply. However, it should be noted that there are other explanations for the fact that for the economy as a whole, the marginal productivity of capital may not be diminishing. For example, the explanation that in a growing economy firms have the incentive to undertake research and development is often used to complement the idea of human capital. In either case, the growth rate of output depends on the savings rate because it is the higher rate of saving that encourages greater investment in human capital and research and development.

It is important to recognize that the effects of the increase in human capital may have inhomogeneous effects. Lucas (1993) notes that the main engine of growth is the accumulation of human capital and that the main differences in living standards among nations is differences in human capital. However, also quotes several commentators who argue that such forms of human capital accumulation as learning by doing may not be equally beneficial to all countries. For example, according to

Stockey (1988) with free trade, learning by doing is depressed in the poor country, which now imports high quality goods from the rich country rather than attempting to produce them itself. Moreover, one should mention the view held by Lucas (1988) that different goods are associated with different learning rates; however, the stricter version of this hypothesis that different goods are associated with permanently different learning potentials has been criticized.

Let us turn to the empirical examples. By studying the data for the United States, Becker (1993) has found that high school and college education in the United States greatly raise a person's income, even after netting out direct and indirect costs of schooling, and even after adjusting for the fact that people with more education tend to have higher IQs and better-educated and richer parents. The earnings of more educated people are almost always well above average, although the gains are generally larger in less developed countries.

Consider the differences in average earnings between college and high school graduates in the United States during the past fifty years. Until the early sixties college graduates earned about 45 percent more than high school graduates. In the sixties this premium from college education shot up to almost 60 percent, but it fell back in the seventies to under 50 percent. The fall during the seventies led some economists and the media to worry about "overeducated Americans." Indeed, in 1976 Harvard economist Richard Freeman wrote a book titled The Overeducated American. This sharp fall in the return to investments in human capital put the concept of human capital itself into some disrepute. This caused doubt about whether education and training really do raise productivity or simply provide signals about talents and abilities.

But the monetary gains from a college education rose sharply again during the eighties, to the highest level in the past fifty years. Economists Kevin M. Murphy and Finis Welch have shown that the premium on getting a college education in the eighties was over 65 percent. Lawyers, accountants, engineers, and many other professionals experienced especially rapid advances in earnings. The earnings advantage of high school graduates over high school dropouts has also greatly increased. The talk about overeducated Americans has vanished, and it has been replaced by concern once more about whether the United States provides adequate quality and quantity of education and other training.

One can also mention an older experience in the United States examined by Goldin (1999): a great expansion in secondary education in the United States that took place between 1910 and 1940 led to the increase of egalitarianism and to the increase in competition for white-collar jobs. With the expansion of secondary education came a reduction in the premium to more educated labour. The estimates show that the high school earnings potential fell by 37 log points fro 1980s and 1939. Newer, fast-growing high-technology industries began to employ large numbers of young male high school educated graduates as blue-collar workers, which led to the expansion and growth of new industries such as electrical machinery, aircraft and ship-building.

In India, Foster (1996) has found that the returns to primary schooling increased during a period of rapid technological progress, particularly in areas with the highest growth rates, which indicates that there is a link between economic development and

the accumulation of human capital. The more-schooled farmers in India on the onset of the green revolution (the introduction of new hybrid seed varieties that took place in the 1960s) were more likely to adopt the new seed varieties. Moreover, it has been shown that the distribution of income and legal rights also has a significant effect: because the sons of the heads of farm households typically stay on the family's land and will inherit that land, expectations of future technology growth will raise the expected returns to schooling in farm households.

Overall, it is clear that the endowment and acquisition of human capital play an important part in the economic development of a country. Endogenous growth theory places a significant weight on human capital as one of the means of ensuring that the law of diminishing returns does not affect the ability of the economy to grow. The experience of the United States in the twentieth century that has been considered in detail in the essay confirmed this view, despite the presence of certain controversies. Moreover, a snap shot of the Indian development provides further evidence for the importance of human capital for economic growth. It should be noted, however, that there are a number of factors that create a heterogeneity of experiences: contrasting the Indian and the American experiences shows that the initial level of endowment of human capital has an impact on how high the increase in productivity arising from the subsequent human capital accumulation will be.

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