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Factors determining capital-Output ratio

The size of capital output-ratio in an economy depends on the amount of capital employed but also on a number of factors which are explained below.

1. Availability of Natural Resources: Capital-output ratio depends on the availability of natural resources. A country with abundant natural resources has a low capital output ratio, for it can substitute natural resources. Norway is a country which has a very high capital-output ratio because she is not endowed with natural resources

2. Growth of population: Hagen points out that in industrial countries, with a rapidly growing population, the capital output ratio tends to be low. For, population growth leads to substantial capital saving in social overheads. In the case of an agricultural country, however, population growth has an adverse effect on the capital output ratio. If a growing population is absorbed on the cultivable land and not much of capital is required per unit of output. But, if the increase in population is concentrated in the towns, more capital will be required to meet its requirements on more houses, power, water, schools etc.

③ Degree and Nature of Technological Advance— If technical progress is accelerated due to a major innovation, the capital output ratio will tend to rise. If technological advances are capital intensive in character the capital output ratio will tend to rise. On the other hand, if technical innovations are labour intensive in nature, the capital output ratio will tend to fall.

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④ Efficiency with which new type of equipment is handled: But a low level of efficiency in handing new capital equipment would lead to waste and as a result the capital output ratio would be high and vice versa

⑤ Composition of investment: The pattern of investment in an economy depends upon the policy of the government. If the government plans a heavy expenditure on public works and public utilities (railways, power, schools etc) The capital output ratio would be high. But the capital output ratio would be low if the pattern of investment is inclined towards the development of agriculture and cottage industries

⑥ Spread of Education: With the spread of literacy and education, efficiency increases which tends to make a better use of capital equipment whereby the capital output ratio falls and vice versa.

Case for low or high capital-output ratio in developing countries

Economists differ on the issue whether the capital-output ratio should be low or high in developing countries.

Low capital output ratio: Those who favour a low capital output ratio advance the following arguments.

(1) Prof. Lewis points out that the ratio of capital in existance to annual income is much lower in developing countries because their rate of capital accumulation has been much smaller.

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② In developing countries, natural resources are underutilized or unutilized and a small capital investment will lead to a large output.

③ In view of the shortage of capital and the abundance of labour, there is greater incentive to use capital saving methods of production in developing countries

④ If in the early stages of development, it is planned to concentrate on agricultural development and other labour intensive industries, the capital output ratio will be low. For, it is possible to have a large output with a smaller amount of capital.

<u>High Capital output ratio</u>: Economists who favour a high capital output ratio for developing countries advance the following arguments.

① The capital output ratio is higher in developing countries because there is much wastage in the use of capital. Capital is wasted in the sense that manpower is inefficient in handling and maintaining capital equipment properly.

② The level of literacy and education is extremely low in such countries, where the growth of technological knowledge is slow, capital is less fruitful.

③ Moreover, countries with limited natural resources require more substitution of capital for them.

④ As an economy moves on the path of development, the pattern of demand is likely to exchange which may necessitate the establishment of more capital intensive industries. For example, a change in demand from handmade to machine made goods would increase the demand for capital.

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Limitations: The use of capital output ratio in developing countries has a number of limitations.

① Precise calculations of capital output ratio can be made only in the light of concrete programmes of development and the technical data regarding costs and output. But such data are not easily available in an underdeveloped economy.

② The capital output ratio is not likely to remain constant throughout a plan. It is bound to change as the development plan proceeds from year to year. As a result, there is wide disparity between the projected ratio and the actual ratio. For instance, the first Indian Five Year plan assumed a marginal capital output ratio of 3:1 but realized 1.8:1 in practice.

③ The use of capital output ratio as a tool of economic planning is circumscribed by the presence of underutilization of excess capacity in the used resources in an developing economy. It is, therefore, difficult to calculate the capital output ratio accurately.

④ The capital-output is meant to estimate the total capital requirements of an economy, but fails as a tool for determining priorities among different sectors or projects in the economy.

⑤ The capital output ratio fails to tell us anything about investment in human capital required to achieve a certain rate of growth. Investment in human capital is as important for economic growth as is physical capital.

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