

Answer on Question #73962 -Economics - Microeconomics

In one production period, a firm produced an output rate of 1,000 using 50 units of capital and 40 units of labor. In a later period, output was 1,500 units, the capital input was 60 units, and the labor input was 45 units. The base period input prices are $r = 5$ and $w = 10$. Determine total factor productivity in each period and the Percentage of change in that productivity between the two periods.

Answer.

$$P = \frac{TP}{Kr+Lw}$$

$$P_1 = \frac{1000}{50 \times 5 + 40 \times 10} = 1.54$$

$$P_2 = \frac{1500}{60 \times 5 + 45 \times 10} = 2$$

$$\frac{P_1}{P_2} = \left(\frac{2}{1.54} - 1 \right) \times 100 = 29.87\%$$

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