

Unit 1 - Economic Growth

Measure of economic growth

Per capita income is a useful "summary statistic" of the level of economic development in the sense that it is highly correlated with other measures of quality of life.

However we can also go for real GDP per, worker rather than the denominator being the entire population.

$\frac{Y}{L}$ or $\frac{Y}{\text{Popln}}$?

* $\frac{Y}{L}$ is considered because in Y the ^{work} income of those sections of the population like housewives are not included in Y but they are a part of the denominator. To avoid this we have $\frac{Y}{L}$ ratio.

Refer table 1.1. We can see considering $\frac{Y}{L}$ Japan's performance is worse as in Y the denominator L is more as Japan has a higher labor participation rate.

Which of these one must consider for direct comparing levels of development?

Per capita GDP is a more general measure of welfare in that it tells us how much output per person is available to be used.

GDP per worker tells us more about the productivity of labor force. Thus the first statistic can be thought of as a welfare measure while the second is a productivity measure. (*)

Note - In 1995, more than half of the world's population lived in countries with less than 10% of US GDP per worker.

The bulk of this popn lives in only 2 countries. China with nearly $\frac{1}{4}$ th of world popn and India with $\frac{1}{5}$ th of world popn.

of the poorest countries, China and India had substantial growth in GDP per worker. China (4% to 9%) and India (7% to 10%).

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The NICs.

NICs refer to the newly industrializing countries which are Hongkong, Singapore, Taiwan and South Korea. (refer Table 1.1 and read more on pg 9).

(*)

Instead of relying on prevailing exchange rate, we rely on a PPP (adjusted) exchange rate (read further on pg 6)

Years to double

(Lucas)

A convenient rule of thumb used by Lucas is that a country growing at g percent per year will double its per capita income every $\frac{70}{g}$ years.

Let $y(t)$ be per capita income at time t and let y_0 be some initial value of per capita income. Then

$$y(t) = y_0 e^{gt}$$

The time it takes per capita income to double is given by time t^* at which $y(t) = 2y_0$.

Thus $2y_0 = y_0 e^{gt^*}$

$$\ln 2 = g t^*$$

$$t^* = \frac{\ln 2}{g} = \frac{0.7 \times 100}{g}$$

$$\Rightarrow t^* = \frac{70}{g (\ln 2)}$$

As per this rule following are the no. of yrs for diff nations to double the income

US - 50 yrs, Korea - 12 yrs; India - 30

(Refer Table 1.1)

All the facts summarised till now: -

- There is enormous variation in per capita income across economies. The poorest countries have per capita income that are less than 5% of per capita incomes in richest countries.
- Rates of economic growth vary substantially across countries.
- Growth rates are not generally constant over time. For the world as a whole, growth rate were close to zero over most of history but have increased sharply in the 20th century. For individual countries, growth rates also change over time.
- A country's relative position in the world distribution of per capita income isn't immutable. They can move from being poor to rich and vice versa.