

Econ. 1A. Chapter 9. Handout

In the class, we learn G_Y , G_{pop} , $G_{Y/pop}$, Rule 70 and $G_Y - G_{pop} = G_{Y/pop}$. All of them are new and very important concepts related to economic growth. The following example should be able to clarify these concepts, please do it carefully at least one time.

Example:

Mexico's RGDP was 1,448 billion pesos in 1998 and 1,501 billion pesos in 1999. Mexico's population growth rate was 1.8% in 1999. Calculate

1. Mexico's economic growth rate in 1999
2. Mexico's growth rate of RGDP per person in 1999.
3. The approximate number of years it will take for RGDP per person in Mexico to double if the growth rate of RGDP per person keeps the same as 1999.
4. The approximate number of years it will take for RGDP per person in Mexico to double if the 1999 economic growth rate is maintained but the population growth rate slows to 1 percent per year.

	Y
1998	1,448 billion
1999	1,501 billion .

$$\begin{aligned} 1. G_Y &= \{[Y(1999) - Y(1998)]/Y(1998)\} \times 100\% \\ &= [(1,501 - 1,448)/1,448] \times 100\% \\ &= 0.0366022 \times 100\% \\ &\approx 3.7\%. \end{aligned}$$

$$\begin{aligned} 2. G_{Y/pop} &= G_Y - G_{pop} \\ &= 3.7\% - 1.8\% = 1.9\%. \end{aligned}$$

$$3. \text{Rule 70. } 70/1.9 \approx 37 \text{ years}$$

4. Rule 70

$$\begin{aligned} G_{Y/pop} &= G_Y - G_{pop} \\ &= 3.7\% - 1\% = 2.7\%. \end{aligned}$$

$$70/2.7 \approx 26 \text{ years}$$

Exercise:

China's RGDP was 7,394 billion yuan in 2005 and 8,000 billion yuan in 2006. China's population growth rate in 2006 was 0.5%.

1. Calculate China's economic growth rate (G_Y) and growth rate of RGDP per person ($G_{Y/pop}$) in 2006.
2. Calculate the number of years it will take for RGDP per person in China to double if the growth rate of RGDP per person keeps the same as 2006.