

Assignment #12,

This assignment is due in class on 5/8. I have posted on the web site a spreadsheet with data on population, real GDP (in comparable \$'s), labor, and capital (in comparable \$'s) for 5 countries in 1965 and in 1990. The factor increase in one of these variable X means the ratio of its value in 1990 to its value in 1965: X_{90}/X_{65} . The growth rate is just the natural logarithm (in Excel the natural logarithm is \ln) of the factor increase divided by the number of years: $\ln(X_{90}/X_{65})/25$.

1. For each country, calculate the growth rate of GDP. Discuss the ranking of countries from fastest to slowest growth.
2. For each country in both 1965 and 1990 calculate real GDP per capita. Which country had the most rapid growth rate of GDP per capita?
3. Explain how your results above change if you replace real GDP per capita with real GDP per worker. Are changes in the fraction of the population that works very important over these time periods in these countries?
4. For each country, calculate the growth of technology (i.e. total factor productivity). Remember, you take the growth rate of real GDP and first subtract the growth rate of labor (weighted by $2/3$) and then subtract the growth rate of capital (weighted by $1/3$). Make a table of your results. What appears to be the most crucial factor explaining why some of these countries grew faster than others? (i) the growth of the labor force, (ii) the growth of capital, or (iii) the growth of technology.