

Growth Facts: Capital and Labor Shares

For this exercise you will need to download the excel spreadsheet on the course homepage Income_Shares.xls. Except for the capital stock related data, all the data is taken from the 2013 *Economic Report of the President*. The table sources are identified in the first row of the spreadsheet. The capital stock numbers are generated using the perpetual inventory method. Their ratio to GNP is given in column C. Column D adds land to the stock of capital. For the purpose of reorganizing the accounts around the Solow model, column D is the relevant data.

Your assignment is to calculate capital's share of income, and the implicit real rate of return on capital in each year from 1964 to 2010. You are to repeat the assignment twice: first, assuming that all ambiguous income is capital income, and then, assuming that all ambiguous income is labor income.

Note: the relevant numbers for output are the GNP corrected numbers listed in column G. This corrects GNP in the ERP by a statistical discrepancy between GNP calculated by adjusting GDP and GNP calculated from claims on income.

The first step in the procedure is to calculate total capital income in each year. Once you have this number divide by GNP (Column G) to get capital share of income. Call it $r_k K/\text{GNP}$.

The next step is to impute the rental price of capital, r_k . To do this take $r_k K/\text{GNP}$ that you computed in step 1, and divide it by K/GNP (column D). This yields the rental rate of capital in the year.

The next step is to calculate the depreciation rate. To do this we use Consumption of Fixed capital (column H). This represents δK . Next, divide this by GNP (column G), which yields $\delta K/\text{GNP}$. Finally, divide this by K/GNP (column D), and you are left with the value for δ .

The final step is to compute the real rate of return exploiting the fact that it is equal to $r_k - \delta$.

Hand in

1. The capital share of income for each year, as well as the average value for the period.
2. The depreciation rate for each year, as well as the average value for the period.
3. The real rate of return on capital each year, as well as the average for the period.

As you are to undertake the procedure twice with different assumption regarding the treatment of the ambiguous income components, you should have 6 time series plus 6 averages to hand in.