Chapter 14. Econometrics

1. Much of the increase in inequality is attributed to an increase in the demand for skilled workers (skill biased technological change). This represents a rightward shift in the demand for skilled labor. If the labor supply curve of skilled labor remains relatively unchanged, then the equilibrium wage for skilled workers will rise and so will income inequality within a country. If, however, the supply of skilled workers also increases, the rise in the wage of skilled workers will be dampened and inequality will not rise by as much (if at all). Thus, one would expect that countries with a relatively large increase in SKILL will have experienced a smaller increase in inequality. This implies that $\alpha_2 < 0$. Since inequality depends on the gap between the skilled and unskilled wage, countries that pay a relatively higher wage to unskilled workers should have, all other things being equal, experienced a smaller increase in inequality. Since unionization strength raises the wages of the unskilled, one would expect $\alpha_1 < 0$ as well.

2. Plotting the data and connecting the lines for each of the six groups, yields:

Pooling all the observations to estimate the model, yields the following results:

$$ R_{20\%} = -15.19 + 0.009t $$

where the numbers in parentheses are standard errors. The regression line is plotted below:
The coefficient on $t$ yields the average change in the dependent variable (i.e., within-group inequality) per year. Thus, on average, within-group 80:20 ratios increased by 0.0090 per year over this time period. The intercept, $\alpha_0$, gives the predicted 80:20 ratio when $t = 0$, or in year 0. Obviously, this prediction is totally unreliable since it involves projecting backwards in time almost 2000 years.