

**EC 151 Homework II**  
**Solutions**  
**Inequality**  
**Due October 2nd class**

**1) Inequality & Growth--- Channels**

The key point of this exercise was to think about the different paths via which inequality affects growth. The data I gave you suggested three different paths (and we discussed all of them in class).

- i. inequality → savings → growth.
- ii. inequality → human capital investment → growth
- iii. inequality → redistribution → growth

I wanted you to look at the correlations in the data (and remember that is all they are correlations, we cannot say anything definite about the direction of causality!) and see if these correlation suggest anything about the above pathways. Some correlations were weak and subject to interpretation, but in general, there is suggestion that perhaps:

- i. high inequality → low savings → low growth.
- ii. high inequality → low human capital investment → low growth
- iii. high inequality → high redistribution → low growth

I wanted you to link the correlations observed in the data to the models that we discussed in class.

**2) Measuring Inequality—Lorenz Curve**

The Lorenz Curve tells us that x fraction of households/individuals in the economy that hold y fraction of wealth. So the x-y coordinates are as follows:

a. *Textbook. Chapter 6 Problem 3 part a)*

(x) Cumulative Household %	(y) Cumulative. Income
10	29
30	43
60	86
1	1

d. *Textbook. Chapter 6 Problem 3 part d)*

Cum. HH	Cum. Inc
10	38
30	46
60	85
1	1

**3) Inequality-Savings Rate**

*[Textbook. Chapter 7. Problem 7 ]*

- a. Savings rate 21%
- b. This kind of growth leads to an increase in the savings rate, because the middle-class saves a positive fraction of income, while the poor do not. Using the formula for the HD model, the rate of growth should accelerate.
- c. Consider the scenario where growth occurs by shifting people from the middle-class to the rich. Because the rich save a lower fraction of their income than the middle-class, this will bring down the rate of savings over time, and therefore the rate of growth.
- d. Before savings was just constant throughout the growth process. Now, growth also influences savings, so depending on how the country is growing, the savings rate will change as well. Savings is endogenous!