Spring 2021

ECON 133 "Global Inequality and Growth"
Final

Total Points: 40

Exercise 1: True False Statement/Questions (12 points)

Explain your answer entirely based on what has been discussed in lecture and in section. All the credit is based on the explanation.

1. Since the 2000s, the main driver of the gender gap is differences in education between men and women. *(2 points)*
2. In the long run, wealth inequality is the result of savings and income inequality. In your answer, you may assume no price effects. *(2 points)*
3. Suppose the share of people dying with zero wealth has increased over the last decade. It therefore implies that the share of inherited wealth out of total wealth is shrinking. *(2 points)*
4. In a dynamic random shocks model, a larger gap between r and g implies a lower Pareto coefficient governing the top of the steady-state distribution of wealth. *(2 points)*
5. Since 1980, the US has seen a dramatic increase in wage inequality. This an unavoidable consequence of globalization and technology. *(2 points)*
6. The optimal bequest tax rate is the rate that maximizes government revenue. *(2 points)*

Exercise 2: Inherited Wealth (6 points)

a) Modigliani (1986, 1988) defines inherited wealth as $W_{Bt}^{M} = \sum_{t-H \leq s \leq t} B_s$ where B_s is the observed (past) annual inheritance flows over the last H years. When compared to Kotlifoff & Summers' formula, what is the implicit assumption embedded in Modigliani's computations? Do you think this is a good assumption? Why? *(2 points)*

b) Why do both Modigliani and Kotlikoff & Summers add up inheritance flows going only H years back (H is a number, say 30)? Explain by using an example. *(2 points)*

c) What are the main reasons why φ has been increasing over the past decades? *(2 points)*

Exercise 3: Labor income inequality (10 points)

Suppose the production function takes the following CES form $Y = \left(A_s L_s^{\frac{\sigma-1}{\sigma}} + A_u L_u^{\frac{\sigma-1}{\sigma}}\right)^{\frac{\sigma}{\sigma-1}}$, where L_s denotes skilled labor and L_u denotes unskilled labor. Wages for a worker of type i are given by $w_i = A_i Y^{\frac{1}{\sigma}} L_i^{-\frac{1}{\sigma}}$, where $i \in \{u, s\}$.

a) Show that the skill premium is $\frac{w_s}{w_u} = \left(\frac{A_s}{A_u}\right)\left(\frac{L_u}{L_s}\right)^{\frac{1}{\sigma}}$. You need to show your derivations starting from the wage equation above to get credit. *(2 points)*

b) Interprete each of its components, and explain how they relate to an increase in the skill premium. *(2 points)*

c) Without making any derivations, show what the skill premium would be if the production function was a Cobb-Douglas instead of a CES. *(2 points)*

d) The underlying assumption in the wage equation above is that there is perfect competition in the labor market. Do you think this assumption holds in the real world? In your response, give examples of deviations from perfect competition in the labor market. *(2 points)*

e) What are the other limitations of this model? *(2 points)*

Exercise 4: Taxation (12 points)

a) Explain in your own words what is a Social Welfare Function and why it is relevant for optimal taxation. Be as specific as possible. *(2 points)*

b) Explain in your own words the equity-efficiency trade-off of taxation. *(2 points)*

Suppose the social planner maximizes a Rawlsian social welfare function.

c) What is the optimal labor income tax rate formula? Assume that the tax system is linear. Explain each parameter in the formula. *(2 points)*

d) Suppose there are no behavioral responses to labor income taxation. Explain in plain words what this assumption means. What is the optimal labor income tax rate in this case? You should also explain the implied elasticity of earnings with respect to the net-of-tax rate. *(2 points)*

e) Suppose the marginal tax rate increases with income. What is the optimal marginal top tax rate now? Explain each parameter in the formula. *(1 point)*

f) What needs to be true about the Pareto Coefficient so that the optimal tax rate in c) and e) are the same. Explain the intuition (hint: what is the inverted Pareto Coefficient in this economy?) *(3 points)*

Bonus (2 points): How has the evolution of minimum wage policies in the US impacted levels of racial income inequality? In your response, draw from relevant press articles, discussion from section and lecture.