

ECON 133 “Global Inequality and Growth”
Final 1, May 15

Student name:

Student ID number:

You have 3 hours

Instruction: Write your answers in the boxes: nothing outside of the boxes will be graded. Please type your answers in Time News Roman 12 and **don't expand the boxes or modify the formatting.**

To write math, you can either use the equation editor (click insert -> equation) or simply use computer typography: e.g. you can write $s_t \cdot \frac{Y_t}{W_t}$ as `s_t*(Y_t/W_t)`

This exam does not have proctoring but we rely on students following the UC Berkeley code of conduct. **By submitting this exam, you declare that you have neither received nor given aid to other students in answering this exam.**

Exercise 1: True or false statement (12 points)

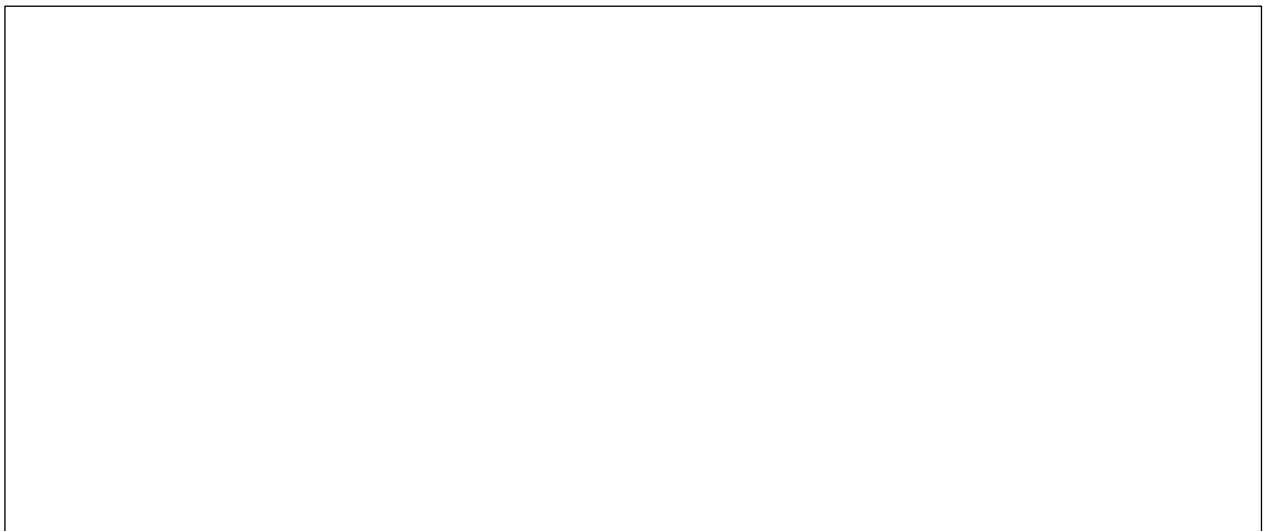
a) *True or false: There is always a trade-off between equity and efficiency (2 points)*

b) *True or false: Development aid harms the quality of institutions as it incentivizes governments to underperform (2 points)*

c) *True or false: Countries receiving the most aid have experienced less economic growth than countries receiving little aid. Therefore, development aid is unsuccessful in delivering economic development. (2 points)*



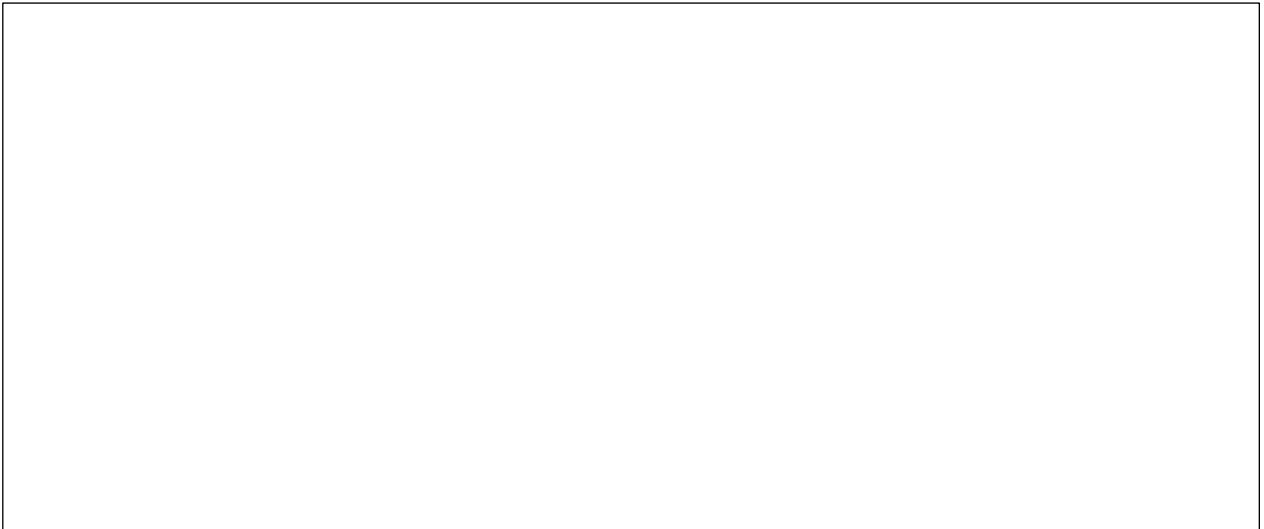
d) *True or false: In the long run, wealth inequality is the result of savings and income inequality. (2 points)*



e) *True or false: Without capital taxation, r would have been greater than g for the duration of the recorded human history. That is, the rate of return on capital (r) would have been greater than the economy wide growth rate (g). (2 points)*



f) *True or false: If the GINI coefficient decreases this implies that the top 1 percent income share is reduced (2 points)*



Exercise 2: Wealth accumulation (8 points)

Let s_t define the economy wide savings rate (net of depreciation) at time t ; Y_t define national income and $g_t = \frac{Y_{t+1}}{Y_t} - 1$

a) Write the steady state expression for the wealth-to-income ratio (do not derive) (1 point)

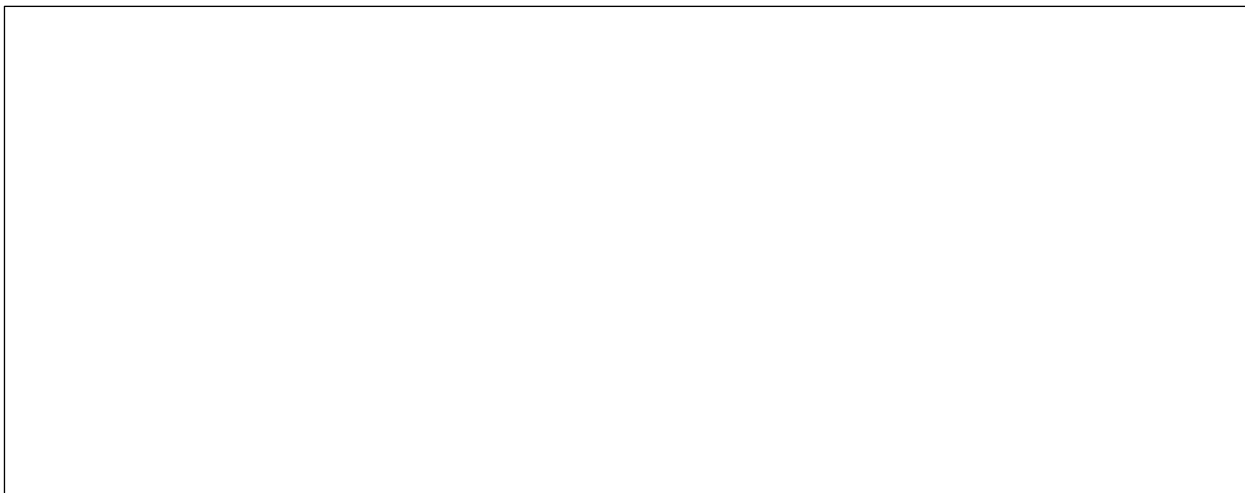
b) Explain the intuition behind the steady-state level of wealth-to-income (1 point)

c) Does a rising level of the wealth-to-income ratio ($\beta = W/Y$) imply a larger capital income share ($\alpha = r \cdot \beta$) ? (2 points)

- d) Consider an economy with perfect competition and a CES (constant elasticity of substitution) production function. Let σ define the elasticity of substitution between capital (K) and labor (L). Under what conditions will an increase in K imply a larger capital income share? (2 points)



- e) Consider an economy without perfect competition – how might wealth accumulation impact the capital income share? (HINT: Consider the impact on bargaining power) (2 points)



BONUS We tweeted an article from Branko Milanovic on the nature of wealth <https://glineq.blogspot.com/2020/02/what-is-wealth.html>. What are the issues he highlights in comparing wealth over time? (2 points)



Exercise 3: Capital taxation (10 points)

a) Why would the government like to tax capital? Why not just tax wages? (2 points)

b) What are the issues with source-based corporate taxation?(2 points)

c) Describe transfer pricing and the arm's-length principle. (1 point)

d) What issues occur when firms are asked to follow the arm's length principle? (1 point)

e) Give a concrete example of how a firm might shift income to tax havens? (2 points)

f) How could the global corporate tax regime be improved? (2 points)

Exercise 4: Monopsony (10 points)

Consider a small firm with one production input (labor). The table below shows the production function of the firm. The Marginal Revenue Product is the value of the extra (marginal) production by hiring one additional employee.

Number of workers	Marginal Revenue Product
1	30
2	20
3	18
4	10

- a) *Assume that the firm faces perfect competition and a market wage of 15 – how many employees will the firm hire? (2 points)*

Now instead assume that the firm has local monopsony power (is the single employer in town) and therefore can determine the governing wage by limiting the number of people it hires (the firm cannot discriminate and has to pay the same wage to all employees). The wage curve facing the firm is given in column 3 “Wage” below

Number of workers	Marginal Revenue Product	Wage	Total Labor Cost	Marginal Labor Cost
1	30	7		
2	20	8		
3	18	15		
4	10	20		

b) *How many employees will the local monopsony hire? (HINT: fill out the remaining two columns) (2 points)*

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c) *What level of hiring would be efficient from an economy wide view? (2 points)*

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d) *How will introducing a minimum wage impact economy wide efficiency? (2 points)*

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e) How can governments try to limit monopsony power? (2 points)

