

Principles of Economics

Review Session

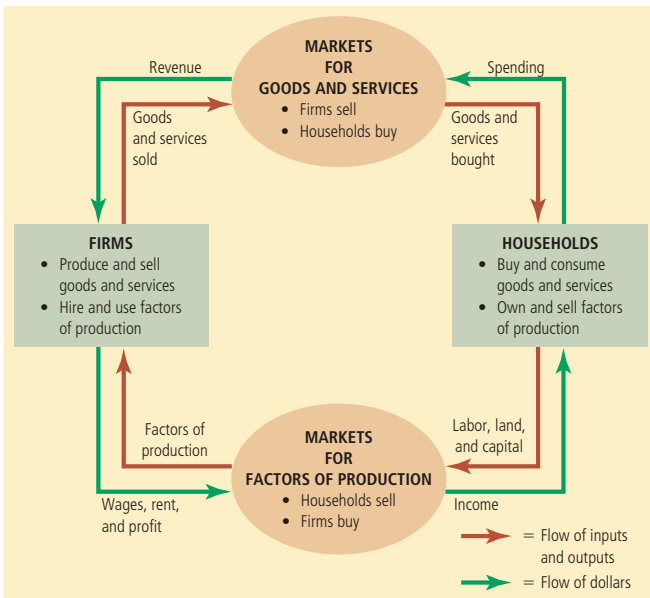
張耕齊

Keng-Chi Chang

<r03323070@ntu.edu.tw>

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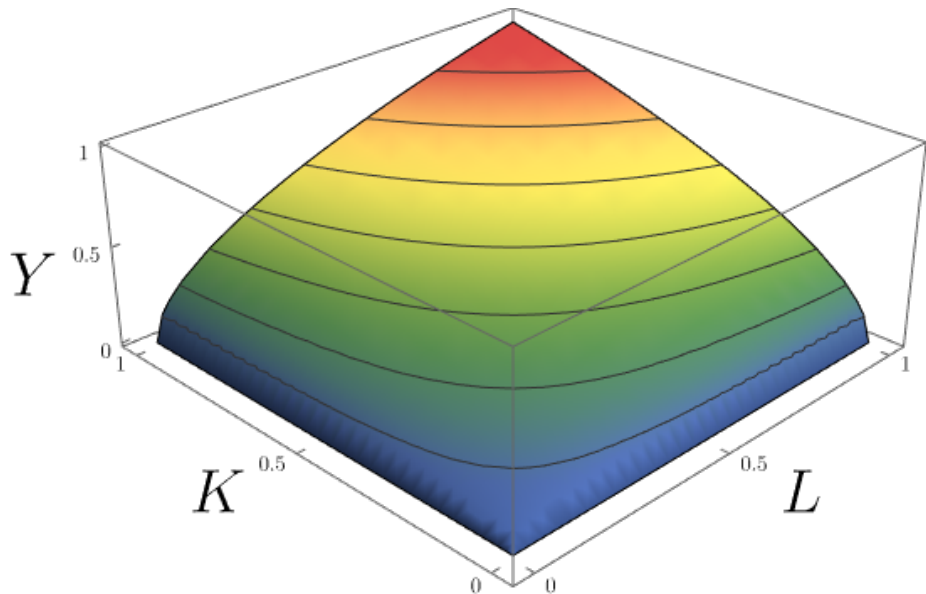
Circular-Flow Diagram



§11.1 Demand for Factors of Production

- Firms use labor and capital as inputs to produce goods as output
- This is captured by the production function $Y = F(K, L)$
- Firms can compute how an additional input will affect output, which is called the marginal product
- If the firm wants to decide whether to hire an additional worker
- MR of employing a worker is her value of marginal product
- MC of employing a worker is the wage firm has to pay
- In a competitive market, this is $P \times MPL = w$
- Similarly, the demand for capital is determined by $P \times MPK = r$
- Example: Cobb-Douglas production function $Y = K^\alpha L^{1-\alpha}$

Cobb-Douglas Production Function



Demand for Labor

ALL 11-2. For Acme Manufacturing, the marginal product of labor is

$$MP = 160 - 3L.$$

Acme is a perfect competitor and sells its output at a price of \$20 per unit. It also pays a wage of \$200 per worker. How many workers should Acme employ to maximize its profits?

§11.2 Supply of Labor

- Suppose workers get utility from consumption and leisure
- Workers face tradeoffs between going to work (so earning higher income and can consume more goods) and not going to work (so enjoys leisure time)
- Workers maximize utility by choosing working hours such that wage equals the marginal benefit of leisure
- By varying the wage rate, we can get the supply of labor

Supply of Labor

ALL 11-6. For a long time, your firm has been paying its workers a wage of \$20 per hour and your employees have been happy to work 40 hours per week at this wage. Business is suddenly booming and your firm would really like your workers to agree to a 50-hour work week in order to meet this new demand for your product. You are considering two strategies. Under the first, you would raise the wage for all hours worked from \$20 per hour to \$22 per hour; under the second, you would leave the wage for the first 40 hours per week at \$20 but offer \$30 per hour for hours worked above 40 hours (that is, you would offer time-and-a-half for overtime). Both strategies have the same cost of \$1,100 if a worker chooses to work 50 hours. Which strategy is more likely to lead your employees to agree to a 50-hour work week?

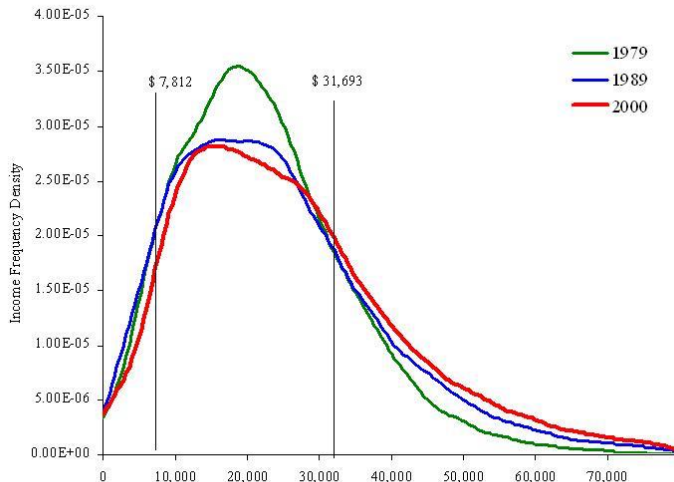
Labor Market

Final 2009 Multiple Choice Q10. Dan owns one of the many bakeries in New York City. Which of the following events will lead to an increase in Dan's demand for the services of bakers?

- (i) The price of muffins increases. (Muffins are Dan's specialty.)
- (ii) Dan adds three new ovens to the kitchen area to help the bakers work faster.
- (iii) Local bakers form a union to protect themselves from low wages.

US Income Distribution

Figure 2. Total United States Income Distributions in Peak Business Cycle Years.



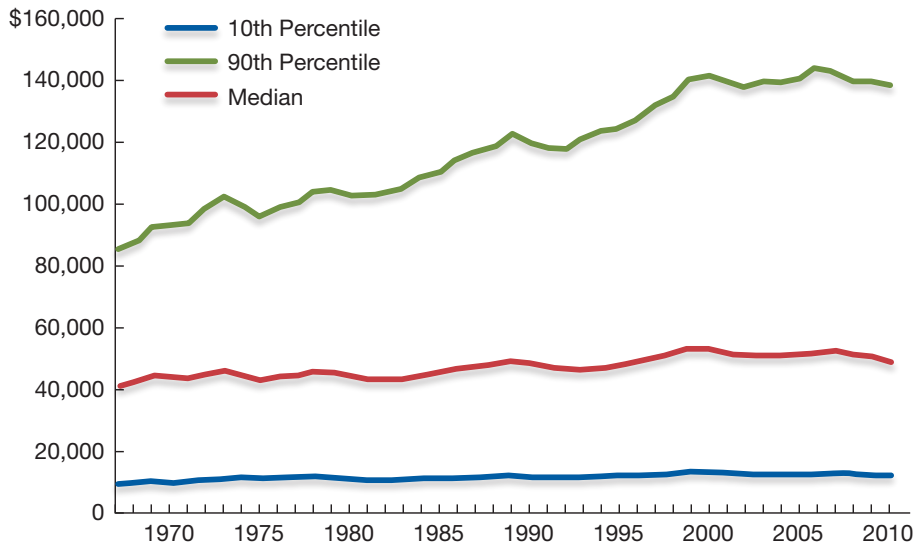
Post-Tax Post-Transfer Household Sized-Adjusted Income, 2000 Dollars

Source: Authors' estimations based on data from the March CPS Annual Demographic Files, 1980, 1990, and 2001.

§11.3 Cross-Sectional Inequality

- How to explain inequality for a certain time period?
 - Human capital: Some people have more skill that is useful in the job market. Ex. college vs. high school graduates
 - Compensating wage differential: Some jobs are more risky and people want to avoid risk, so they get paid more Ex. Coal mining
 - Taste-based discrimination: Employers don't like certain people
 - Statistical discrimination: Employers form expectations for some types of people based on past experiences
 - Read this article if you are interested in discrimination
 - Superstar Phenomenon: Some industries have an extremely high demand for superstars. Ex. Sports, entertainments

US Wage Change Over Time

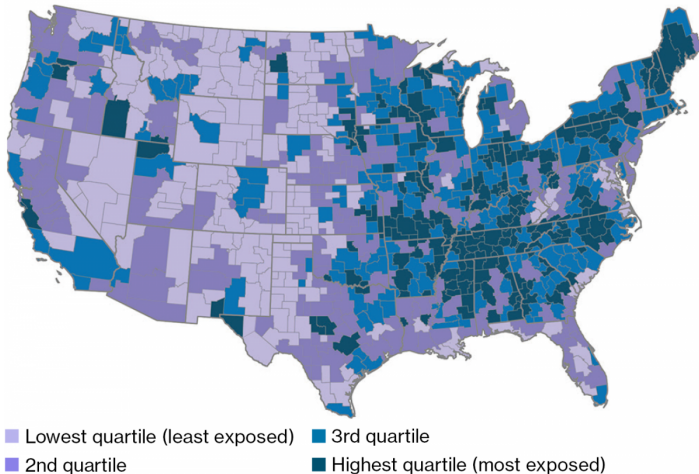


§11.3 Inequality Over Time

- Why inequality seems to boost in the past few decades?
 - Skill-biased technological change: Some technological change that is good for skilled labor but bad for unskilled labor so increases inequality. That is, it complements skilled labor but substitutes unskilled labor. So the relative demand for skilled worker vs. unskilled worker increases. Ex. Computer, Artificial Intelligence
 - Related concept: Labor-saving vs. labor-complementary technology
 - Skill-biased technological change is usually labor-saving for unskilled labor and labor-complementary for skilled labor
 - Globalization: Trade with China may hurt domestic working class and increases inequality, since workers in China substitutes domestic workers

Free Trade's Impact on the United States

Which U.S. regions have been most susceptible to competition from Chinese imports?



Extent to which local areas' businesses faced competition from China, 1990–2007, divided into four levels of economic impact.

Inequality

Final 2009 Multiple Choice Q11. Which of the following is not an explanation for why better educated workers earn more, on average, than less educated workers in the United States?

- a. Better educated workers have higher marginal productivities, on average.
- b. Compensating differentials lower the wages of skilled workers relative to unskilled workers.
- c. The United States tends to import goods produced with unskilled labor, which reduces the U.S. demand for unskilled labor.
- d. The demand for skilled labor has risen over time relative to the demand for unskilled labor.