光华管理学院
Guanghua School of Management

Chapter 13 & 17

Distribution of Income

Hui Wang, Dept. of Applied Economics, GSM, Peking University

Outline

1. Wage income determinants
    1. General wage level
    2. Demand for labor
    3. Labor supply
    4. Labor Market Equilibrium
2. Source of wage differentials
3. Measure of inequality (Ch. 17 A)
4. Public policies (Ch. 17 B p330-332)

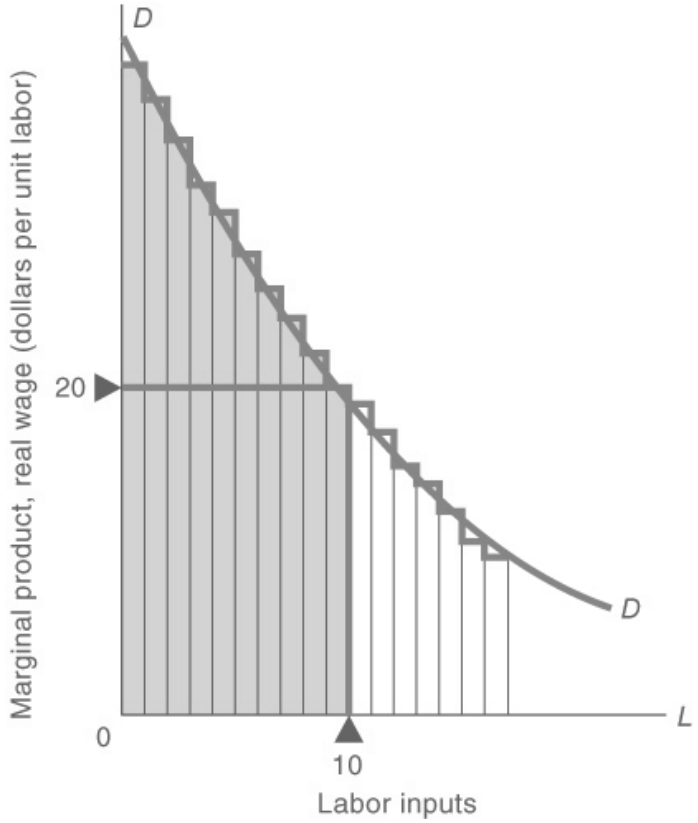
1.1 The General Wage Level

- ***Real wage*** represents the purchasing power of an hour's work
  - Measure of labor earning
  - It's the earning measured by units of certain goods
  - Real wage = nominal wage/ price of the goods

1.2 Demand for Labor

- Marginal Productivity Difference
  - Recall in Chapter 12, optimal labor input is determined by MPL/wage=1/MR=1/P

    OR: MPL=wage/P=real wage
  - Demand for a factor of production reflects the *marginal productivity of that input*



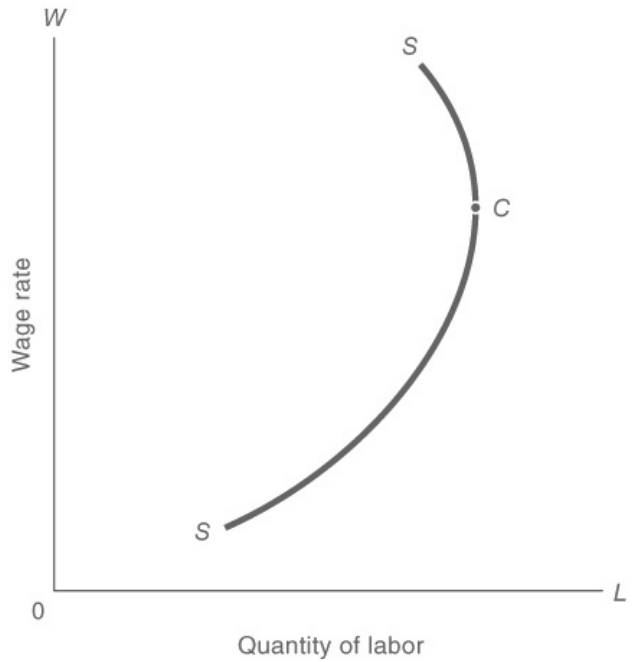
- Factors affecting the labor demand (productivity)
  - Capital stock
  - Technology
  - Quality of labor (human-capital: literacy, education, training)

1.3 Labor Supply

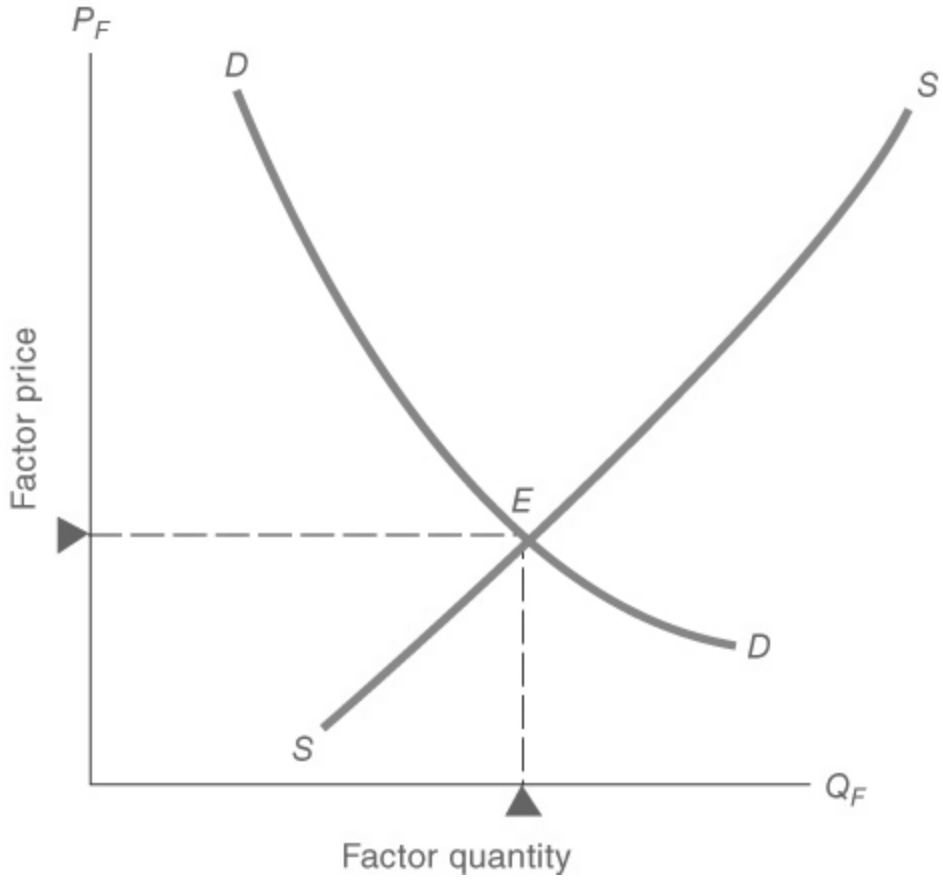
- ***Labor supply*** refers to the number of hours that the population desires to work in gainful activities

- Labor Supply Curve might be backward bending

- Factors affecting labor supply
  1. Labor-force participation
  2. Immigration



1.4 Labor Market Equilibrium



- Labor's price (wage) and quantities are determined by the interaction of labor supply and demand

Outline

1. Wage income determinants
    1. General wage level
    2. Demand for labor
    3. Labor supply
    4. Labor Market Equilibrium
2. **Source of wage differentials**

2.0 Wage Differentials

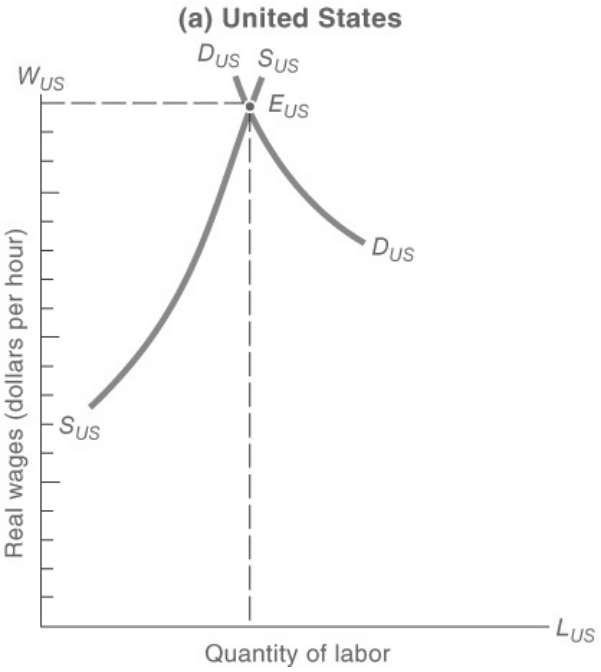
- What will happen in a perfectly competitive labor market?
  - Large number of workers and employers. None of them has the power to affect wage rate
  - All jobs are identical
  - All workers are identical

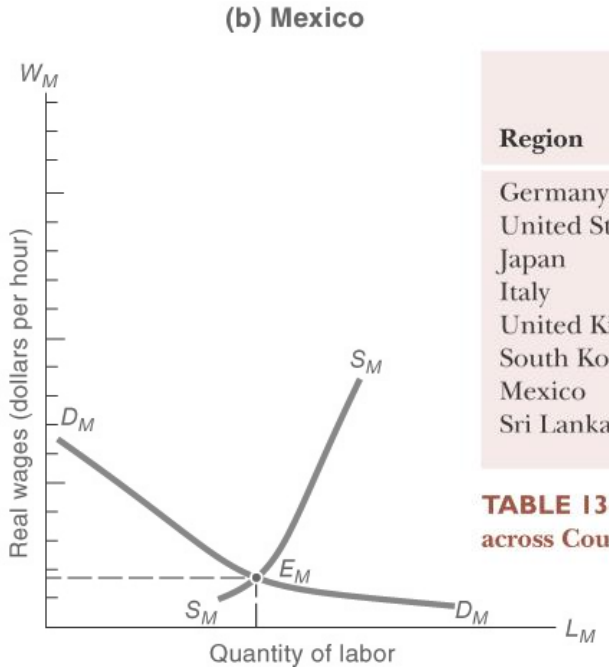
  → Hourly wage rate will be exactly equal

- The pervasive wage differences across countries, industries, or individuals should come from either
  - Difference in people
  - Difference in jobs
  - Imperfect competition in labor market

2.1 Difference in People: Labor Productivity (1)

- Difference in capital stock and technology





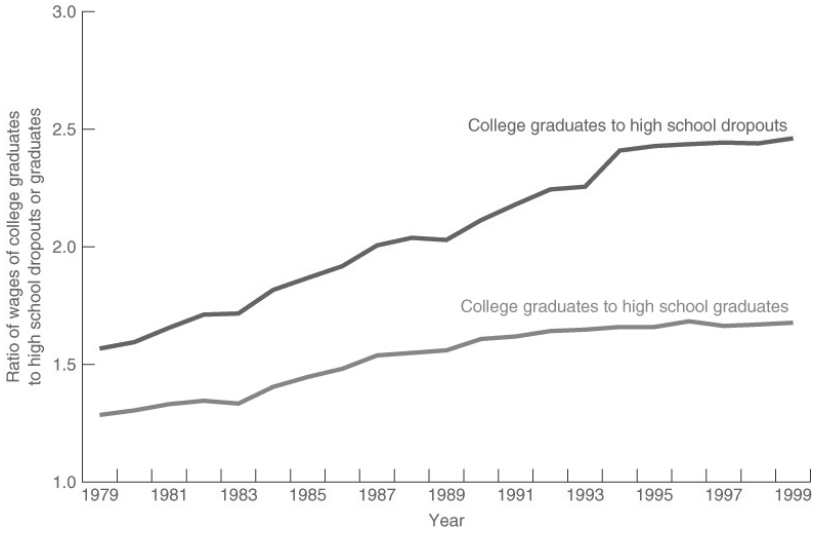
Region	Wages and fringe benefits in manufacturing, 2001 ($ per hour)
Germany	23.84
United States	20.32
Japan	19.59
Italy	13.76
United Kingdom	16.14
South Korea	8.09
Mexico	2.34
Sri Lanka	0.48

TABLE 13-1. General Wage Levels Vary Enormously across Countries

2.1 Difference in People: Labor Productivity (2)

- Difference in human capital
- ***Human capital*** refers to the stock of useful and valuable skills and knowledge accumulated by people in the process of their education and training

- Notice that education itself may not necessarily increase one's productivity
- People earning college premium may because having a college degree is a signal of having higher ability, therefore higher productivity



例：招工模型

- 假设某企业管理者希望从市场上雇用一个工人。
- 该劳动力市场由两种人组成:

（1）非生产性工人,他们不会生产任何产品（简化假设）；

（2）生产性工人，每个工人每年的边际产出价值为1万元。

两种工人在市场中各占50%。

- 如果劳动力市场是完全竞争的，管理者在雇佣工人之前，能够观测到每个工人的生产能力，则

（1）非生产性工人挣不到任何工资;

（2）生产性工人获得与他们的边际价值相等的工资，即每年1万元。

- 相反，如果管理者不能够观测到工人的生产能力时，则只愿意付出0*0.5+10*0.5=5千元(工人的期望产出）来雇用一个工人。
- 此时，非生产性工人在损害生产性工人利益的情况下获利。

为什么企业不对工人进行试用？

- 企业可以考虑试用工人一段时间，观察他们在实际生产中的生产率，然后留下生产性工人，解雇生产性工人。
- 但有些时候这样做成本是非常高的。
- 一些国家的法律，如美国，解雇已经存在雇佣关系若干月的职员是很困难的。需要提供合理理由以及解雇费。
- 另外，对于许多职业，工人需要适应时间。有时候需要半年以上才能够达到最高工作效率。在此期间，企业要对职工进行在职教育(on-the-job training)，需要花费企业许多资源。
- 显然，如果可能的话，企业还是想在正式雇佣工人之前知道工人的真正能力。
- （通过实习观察。Co-op program.）

- 回到刚才的例子，生产性工人要努力向雇主说明自己是真正具有生产能力的。如何去做?
- 面试时衣着讲究?
- 这可能能够传达出某些信息，但并不直接与生产能力相关（除非是对形象有要求的行业），因此衣着只是一个“弱信号”。
- 大声说“我有能力胜任”？
- 如果这样做就能多获得5千元的薪水的话，那么非生产性工人也可以简单地进行模仿而多获得5千元薪水。
- 正因如此，理性的管理者不会关心这些空洞的话，因为每个人都有动力说自己能行。
- 一个强信号一定会满足的条件：给予该信号的成本对于非生产性工人来说比生产性工人高，因此生产性工人更有可能提供这种信号。

High Education as an Ability Signal

- 假设生产性工人具备先天的能力，使得他们容易获得一个大学学位。同时非生产性工人能力较差，使他们难以获得一个大学学位。（或者说他们获得大学学位需要付出很大的代价。）

- 既然非生产性工人难以模仿这个信号，管理这就能够断定有大学学位的工人是具有生产能力的。

- 结果，竞争的压力导致，生产性工人会去获得大学学位，并且获得1万元的薪水；非生产工人不能够模仿这个信号，（或者说，不愿意承担所需要的成本）所以信号传递发挥了作用。

2.2 Difference in Jobs

- Jobs differ in their attractiveness
- Wage differentials that serve to compensate for the relative attractiveness, or nonmonetary differences, among jobs are called ***compensating differentials***
- Compensating factors:
  - Extra long working-hours
  - Lonely
  - Uncertainty such as irregular employment
  - Mortality rate (Statistical value of life)

How to measure the value of life?

- Why do we care?
  - Insurance claims
  - Wrongful-death lawsuits
  - Environmental Protection Agency (EPA): justifying cost of environmental regulation

- Ideas:
  - We can ask individual directly
  - Individual's contribution to the society
  - Life-time earning projection, discounted to present value (what if people don't work?)
  - How much one is loved and needed by their friends and family

- How do economists think of the problem?
  - How much people need to be compensated if you want them to take a riskier job? (Black and Kniesner, 2003)
  - For a given period of time (one year): $\Delta Risk \times V = \Delta Wage$
  - $V = \Delta Wage / \Delta Risk$

Main Results of Black and Kniesner, 2003

Panel 3. ORG and BLS industry risk: 1995[c]

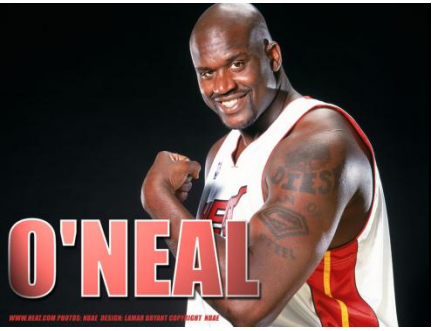
Basic controls	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes
Non-fatal risk rate (3-digit)	No	No	Yes	Yes
Industry/occupation	No	No	No	Yes
Risk/100,000	−135 (−4.32)	−53.3 (−1.34)	189 (−4.03)	−178 (−3.20)
Life value ($1,000,000)	–	–	6.6	–

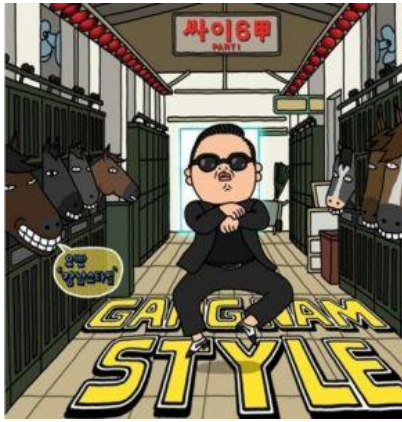
Panel 4. ORG and BLS occupation risk: 1995[d]

Basic controls	Yes	Yes	Yes	Yes
State	No	Yes	Yes	Yes
Non-fatal risk rate (3-digit)	No	No	Yes	Yes
Industry/occupation	No	No	No	Yes
Risk/100,000	−147 (−7.13)	−122 (−4.84)	167 (5.07)	76.7 (2.16)
Life value ($1,000,000)	–	–	5.8	2.7

2.3 Difference in People: The "Rents" of Unique Individuals

- Fame can lift income to astronomical level
- These extremely talented people have particular skills that is highly valued in today's economy
- Outside their special field, they might earn but a small fraction of their high income
- Economists refer to the excess of these wages above those of the next-best available occupation as a pure ***economic rent***
- Technology improvements have made the economic rent of the unique individuals increasing over time
  - Easier for top individual to serve a larger share of the market





List of most viewed YouTube videos

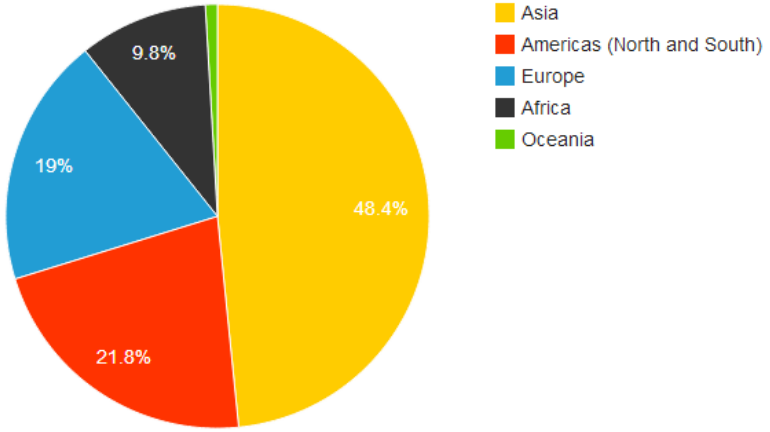
From Wikipedia, the free encyclopedia

This is a **list of most viewed YouTube videos**. It includes the 30 most viewed videos of all time as derived from YouTube charts. Numbers of views figures as of 15 October 2013.[1] Videos that are not included in this list include those that YouTube suspect have viewer count manipulation; there h this.[2]

Top videos

Rank	Video name	Artist	Number of views (as of 24 Oct 2013)	Uploaded on	Notes
1.	"Gangnam Style"	PSY	1,800,980,441	15 July 2012	
2.	"Baby"	Justin Bieber featuring Ludacris	917,989,121	19 Feb 2010	
3.	"On the Floor"	Jennifer Lopez featuring Pitbull	700,244,147	3 March 2011	
4.	"Love the Way You Lie"	Eminem featuring Rihanna	610,591,548	5 Aug 2010	
5.	"Party Rock Anthem"	LMFAO featuring Lauren Bennett & GoonRock	583,711,245	8 March 2011	
6.	"Charlie Bit My Finger – Again!"	Harry and Charlie Davies-Carr	583,602,346	22 May 2007	Non-music viral video
7.	"Gentleman"	PSY	569,809,031	13 Apr 2013	
8.	"Waka Waka (This Time for Africa)"	Shakira featuring Freshlyground	563,497,611	4 June 2010	Official 2010 FIFA World Cup song
9.	"Bad Romance"	Lady Gaga	542,688,203	23 Nov 2009	
10.	"Ai Se Eu Te Pego"	Michel Teló	530,870,138	25 Jul 2011	

Internet Usage



List of Countries by Internet Usage (2014)

Show 10 entries

Rank	Country	Internet Users	1 Year Growth %	1 Year User Growth	Total Country Population	1 Yr Population Change (%)	Penetration (% of Pop. with Internet)	Country's share of World Population	Country's share of World Internet Users
1	China	641,601,070	4%	24,021,070	1,393,783,836	0.59%	46.03%	19.24%	21.97%
2	United States	279,834,232	7%	17,754,869	322,583,006	0.79%	86.75%	4.45%	9.58%
3	India	243,198,922	14%	29,859,598	1,267,401,849	1.22%	19.19%	17.50%	8.33%
4	Japan	109,252,912	8%	7,668,535	126,999,808	-0.11%	86.03%	1.75%	3.74%
5	Brazil	107,822,831	7%	6,884,333	202,033,670	0.83%	53.37%	2.79%	3.69%
6	Russia	84,437,793	10%	7,494,536	142,467,651	-0.26%	59.27%	1.97%	2.89%
7	Germany	71,727,551	2%	1,525,829	82,652,256	-0.09%	86.78%	1.14%	2.46%
8	Nigeria	67,101,452	16%	9,365,590	178,516,904	2.82%	37.59%	2.46%	2.30%
9	United Kingdom	57,075,826	3%	1,574,653	63,489,234	0.56%	89.90%	0.88%	1.95%
10	France	55,429,382	3%	1,521,369	64,641,279	0.54%	85.75%	0.89%	1.90%

2.4 Segmented Markets and Noncompeting Groups

- This reason emphasize difficulty in moving across occupations
- Labor markets are segmented into non-competing groups
- For some professions (e.g., doctors and economists), it is difficulty and costly for a member of one profession to enter into the other
  - The main reason of this market segmentation is that, for these professions, it takes a large investment of time and money to become proficient
  - Once people specialize in a particular occupation, their earnings are subject to the supply and demand for skills in that occupation

2.5 员工激励问题

- 雇主雇佣员进行某种产品的生产
- 雇主和员工的目标与最优选择存在差异:

雇主希望员工努力工作以达到更高的劳动生产率，从而提高利润。

员工关心自己的福利。在赚取既定工资的前提下只想以最低的努力程度工作。

- 如果员工的努力程度无法观测，不能在合同上将劳动报酬与努力成都结合起来，与其结果是员工“偷懒”，劳动生产率低，利润水平低于雇主所希望的水平。

解决方法：提高监管力度?

问题：

- 增加成本；
- “偷懒”难以界定；
- 不利于企业文化的发展。

解决方法：引入激励机制

- 通过改变 偷懒/努力 的成本收益来达到减少偷懒，提高努力程度的目的。

- 策略一：工资与产量目标（企业利润）挂钩，少罚多奖，或发放企业股份，使员工与企业的目标相同。

- 策略二：引入竞争机制。

竞争机制

- 假设一个经理雇佣了两个能力相似的员工。
- 经理让两个员工进行比赛，并对其中一个业绩最好的进行年终奖励101元。
- 由于两个员工能力相似，他们同时努力工作后每个员工胜出的概率均为1/2。假设努力工作的成本为50元。
- 员工的决策:
- 努力工作的预期收入

  $= (-50) \times 1/2 + (101-50) \times 1/2 > 0$
- 结果每个人都努力工作。而企业可能会从两人的共同努力中获得比101元更大的利润。

Outline

1. Wage income determinants
    1. General wage level
    2. Demand for labor
    3. Labor supply
    4. Labor Market Equilibrium
2. Source of wage differentials
3. **Measure of inequality (Ch. 17 A)**

Definitions

- (Chapter 12.A)
- Personal Income: the total receipts or cash earned by a person or household during a given time period
  - Disposable income: personal income less any taxes paid
- Wealth (net wealth): dollar value of financial and tangible assets minus the amount of money owed to banks and other creditors
  - Assets: all items that are of value (tangible: houses, cars, and land; financial holdings: cash, saving, bonds, and stock)
  - Liabilities: all items that are owed (loans)
  - Net worth: total assets – total liabilities
- Wealth is a stock (volume of a lake); Income is a flow per unit of time (flow of a stream)

Distribution of income

- Distribution of income: variability or dispersion of household (HH) income
  - Median: half of the HHs receive less than this value; the other half receive more
  - Percentile (income class): x% of the HHs receive less than this value
  - Median is 50% percentile

(1) Income class of households	(2) Average	(3) Percentage of all households in this class	(4) Percentage of total income received by households in this class
Lowest fifth	$11,551	20	3.4
Second fifth	$29,442	20	8.7
Third fifth	$49,968	20	14.8
Fourth fifth	$79,111	20	23.4
Highest fifth	$169,971	20	49.7
Top 5 percent	$362,514	5	21.2

TABLE 17-1. Distribution of Money Incomes of American Households, 2006

Measures of Inequality - Gini

- ***Lorenz Curve：***
  - Absolute equality: every households earn the same amount of income
  - Absolute inequality: one household earn all income
- ***Gini coefficient***:
  - Shaded area in the Lorenz Curve × 2

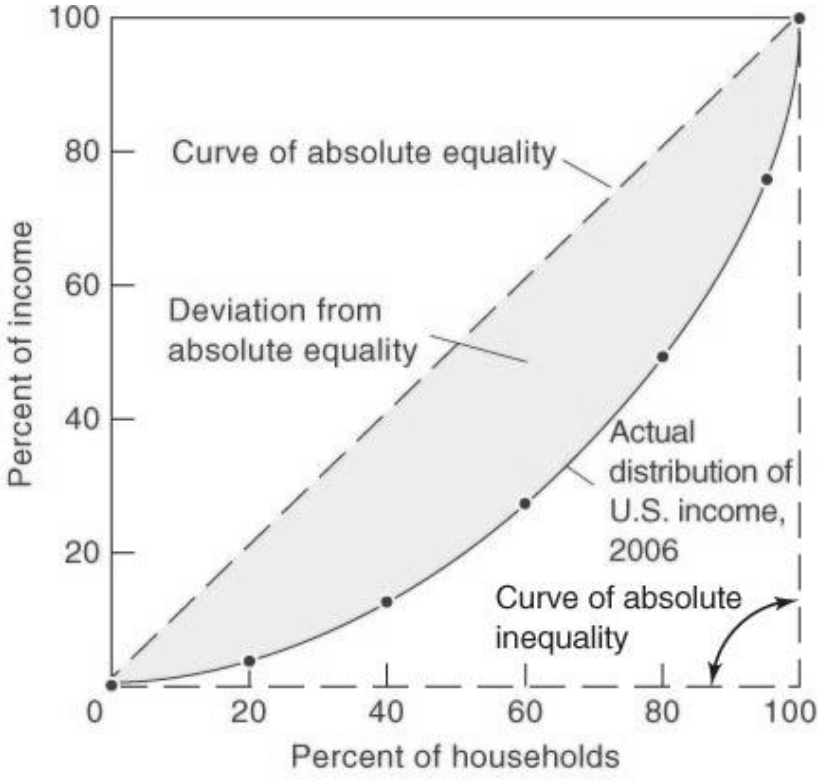


FIGURE 17-1. Lorenz Curve Shows Income Inequality

Gini Coefficient

- $0 \leq \text{Gini} \leq 1$
- Absolute equality: Gini=0
- Absolute inequality: Gini=1

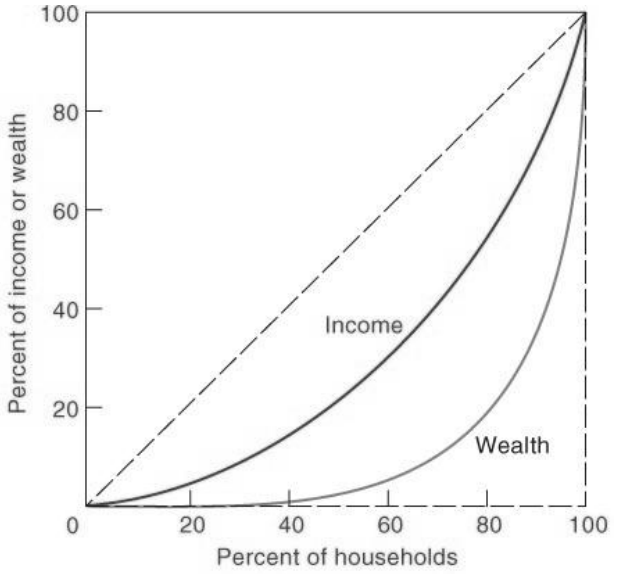
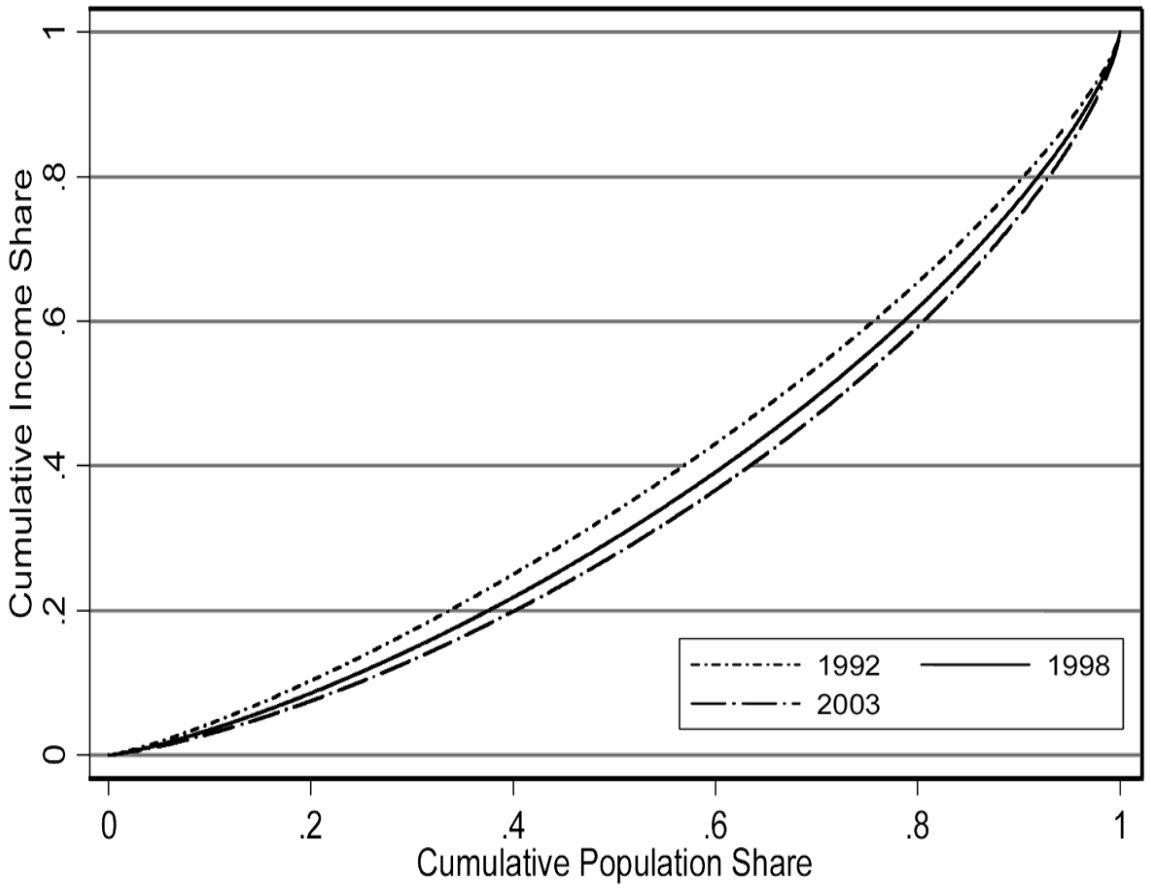
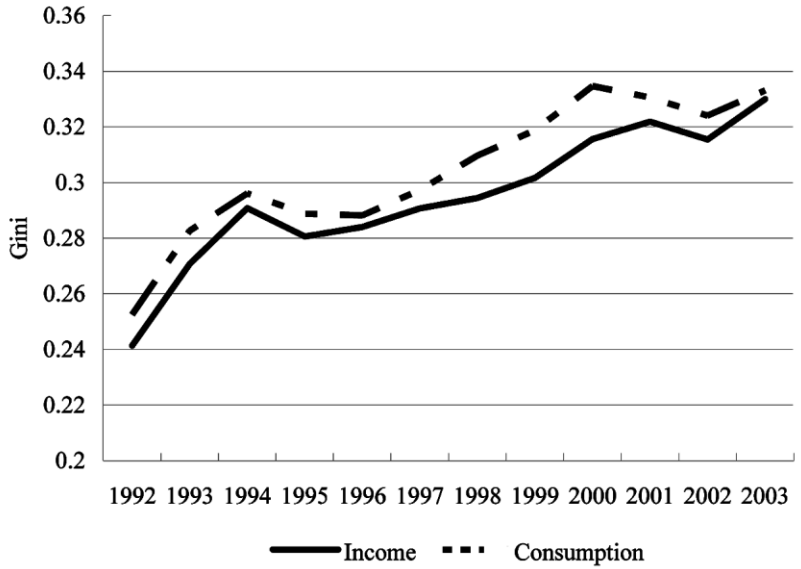


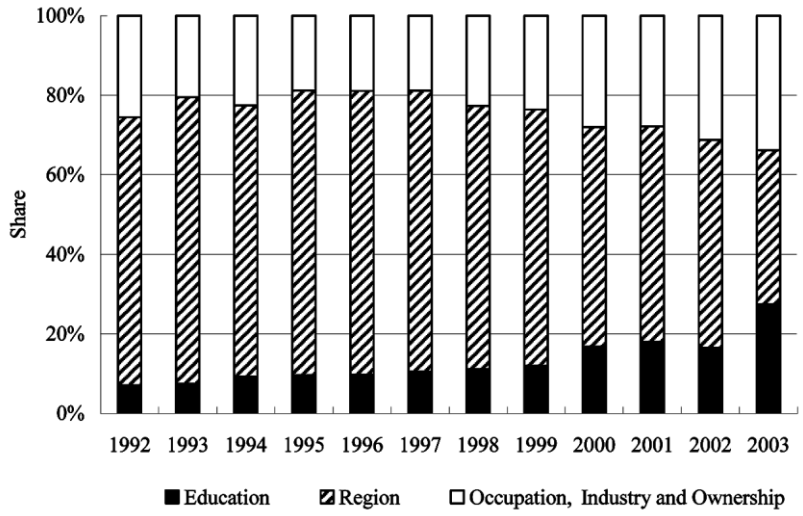
FIGURE 17-2. Inequality of Wealth Is Greater Than for Income

Pros	Cons
• Generally regarded as gold standard in economic work • Incorporates all data • Allows direct comparison between units with different size populations • Attractive intuitive interpretation	• Requires comprehensive individual level data • Requires more sophisticated computations

Urban Inequality Dynamics in China







Gini index, Persons, age 25+, employed full-time[42]									Gini index, Households[41]		
Men			Women			Both sexes					
1967	2005	Δ	1967	2005	Δ	1967	2005	Δ	1967	2005	Δ
31.4	42.4	35.0%	29.8	35.7	19.8%	34.0	40.9	20.3%	39.7	46.9	18.1%

SOURCE: U.S. Census Bureau, 2006

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4. Measure of inequality (Ch. 17 A)
5. **Public policies (Ch. 17 B p330-332)**

Concepts of Equality

1. Equal Political Rights
   - Vote, trial by jury, free speech and association
2. Equal Economic Opportunities
   - Access to schooling, training, and jobs
3. Equal Economic Outcomes
   - Same consumption whether they are smart or dull, eager or lazy, lucky or unfortunate

Invisible Hand for Income?

- Are income under market mechanism fair and just?
  - Whether animals get their fair shares of food in the jungle

- In reality, free market do not guarantee that income and consumption lead to the neediest or most deserving

- The rich may get healthier and richer and the poor get sicker and poorer.

Role of Government

- Government should play a role to ensure a minimum living standard to all
- Social welfare program and government spending policies
  - Minimum living standard subsidy
  - Food stamps
  - Medicaid
  - Social security
- Government finance these activities through redistribution taxation

The Leaky Bucket - Redistribution Costs

- Initial point A: market income distribution
  - Pre-redistribution, no tax, no transfers
  - In a competitive market, A will be efficient that maximizes total national income
- Redistribution
  - At pt A, upper income groups earns significantly more
  - Due to equality concerns, government may use taxation and transfer program to move income from the rich to the poor
  - Point E: redistribution without loss of efficiency (holding the national income constant)
  - ABZ: redistribution with leakage. For $1 reduced from the rich, only 50 cents are received by the poor

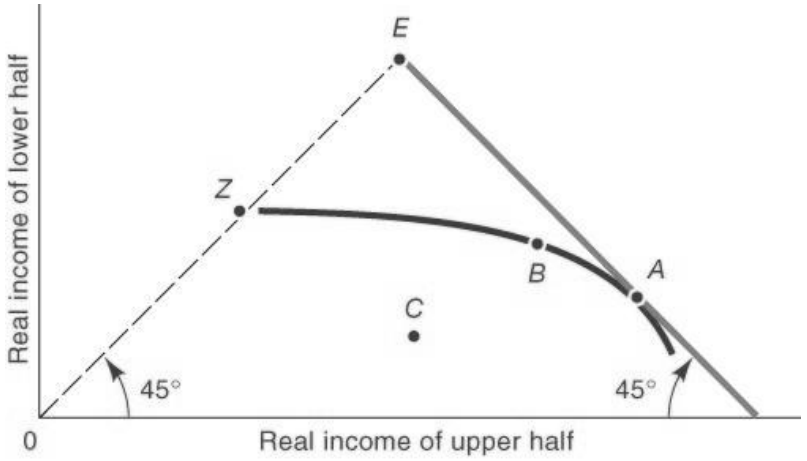

FIGURE 17-5. Redistributing Income May Harm Economic Efficiency

- Attrition associated with taxing the rich
  - Reduction in work effort
  - Distortion in investment
  - Pay extra money on tax lawyers
- Costly redistribution: total income decrease and efficiency is lost

The Communal Kitchens (1958)

- An extreme example of equality
- The new government made a promise that no one would ever be allowed to starve
  - Often referred to as “the iron rice bowl”
  - An indicator of transformation from a socialism society to a communism one
  - “From each according to his ability, to each according to his need” - Slogan popularized by Karl Marx
- Communes set up communal dining facilities and centralized food preparation and consumption
  - Food was provided to the participants free of charge
  - Consumption was not restricted in quantity
- Results: low productivity in agriculture sector

Efficiency v.s. Equality

- Problems of a purely equality-driven society
  - Hard-working people cannot obtain the full returns → no incentive to exert effort
  - Everyone remains equal, but equally poor

- Problems of a purely efficiency-driven society
  - In reality, everyone is not born equally: family background, ability, etc
  - Some are very poor thought no fault of their own, while others are very rich through no virtue of their own
  - Concerns on humanity
  - May jeopardize the social stability, which in turns endanger the efficiency

- Role of the government: Find an optimal balance between the two for a sustainable growth with a harmony society