



# Econ 201: Introduction to Economic Analysis

## November 2 Lecture: Income Distribution and Poverty



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# Daily dose of The Far Side

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"It's a fax from your dog, Mr. Dansworth. It looks like your cat."

# Preview of this class session

- Concepts of inequality: opportunity, gross or net income, earnings, wealth
- Determinants of income distribution
- Lorenz curve and Gini coefficient
- Tradeoff between equality and efficiency
- “Leaky bucket” of income transfer programs
- Recent trends in inequality





# Principles of inequality

- Equality of **outcome** vs. equality of **opportunity**
  - Some choose to work less. Should they earn less?
  - Some choose not to invest in human capital. Should they earn less?
  - Outcomes are easier to measure than opportunities
- Inequality vs. **income mobility**
  - How difficult is it for households to increase their incomes?
  - How much does inequality persist across generations?
- **Rawlsian-justice** principle
  - One should choose preferred distribution without knowing one's position in it
  - Would people choose equality?
  - What about Pareto improvements from equality?



# Marginal-productivity theory of distribution

- Income is earned from selling use of **household's resources**
  - **Quantity** of (labor and non-labor) resources owned
    - Resources = wealth
    - How were these acquired? Inherited? Saved/invested?
  - **Value** of these resources
    - Marginal revenue product = marginal product  $\times$  marginal revenue
    - Are resources scarce or are close substitutes available?
    - Is ownership of valuable resources due to: Foresight? Hard work? Luck? Crime?
  - Choice of **market use** of resources vs. **reservation use**
    - Labor vs. leisure
    - Selling/renting valuable property vs. living in it
    - Note that higher income may not reflect higher utility here



# Some determinants of income

- Natural abilities
- Acquired assets
  - Human and non-human capital
- Effort
- Related supplies and demands
- Compensation for risk (labor or capital)
- Luck
- Others?



# Equality vs. efficiency: Tradeoff?

- **Second theorem of welfare economics**: Exchange efficiency is possible starting at any initial allocation of goods
  - This suggests no tradeoff
- But most inequality policies try to reduce **inequality of outcomes** given the **inequality of initial endowments**
  - This means interfering with efficient allocation mechanism
- Possibility of increased reward motivates individual actions:
  - Production
  - Investment in human and physical capital
- Taxes and transfers reduce marginal reward for productive actions
  - This leads to some reduction in economic efficiency
  - More equality → Less efficiency?



# Government equality programs

- **Progressive taxation**

- Rich pay a higher share of income in taxes
- Most income-tax systems are progressive
- Sales tax or VAT can be regressive (depending on exemptions)
- Inheritance taxes are strongly progressive

- **Transfer payments** (cash or in-kind)

- Social Security, poverty assistance, SNAP (“food stamps”)
- Subsidized housing, Medicaid, subsidized child-care, school lunches

- **Public education**

- Provide basic human capital to all



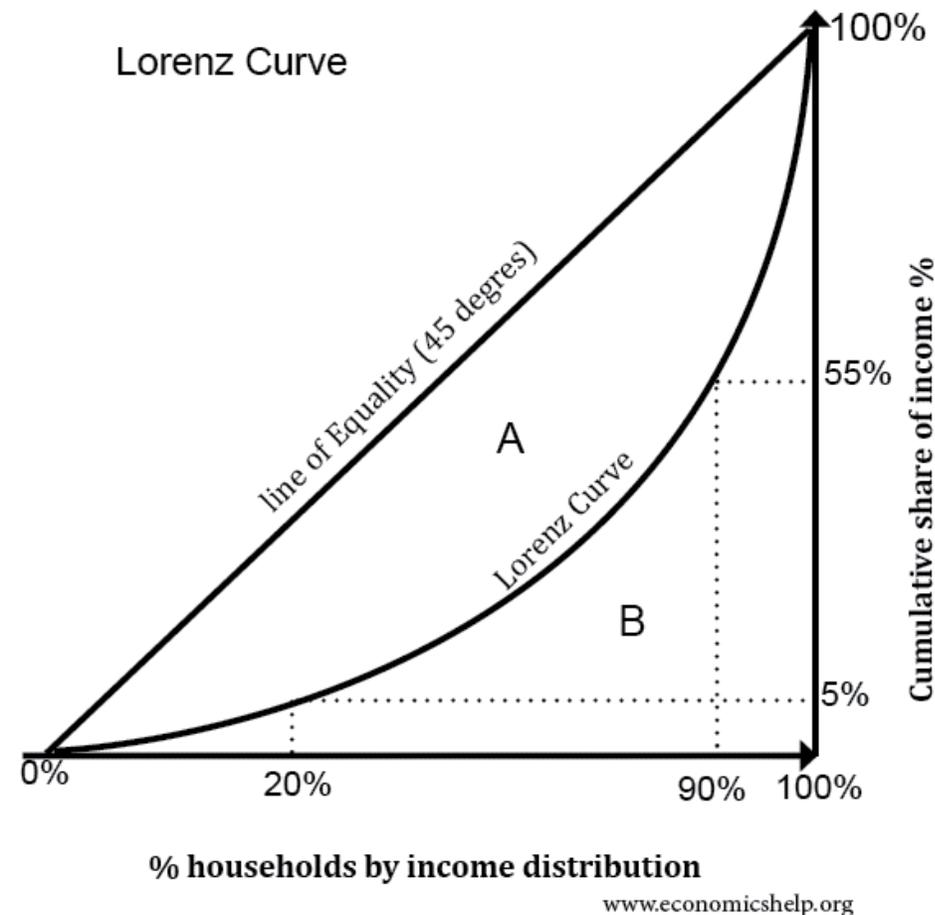
# Okun's "leaky bucket"

- Arthur Okun characterized the tradeoff between equality and efficiency using the analogy of a **leaky bucket**
- As income is transferred from rich to poor, some "leaks" out through reduced efficiency
  - Deadweight losses, reduced incentives for both rich and poor
- Amount of leakage depends on elasticities (labor supply)
- How much leakage is acceptable?
  - Normative question with no right answer
  - 100% leakage makes rich worse off and doesn't help poor
  - Low leakage means that cost to rich is not much higher than benefit to poor



# Characterizing distribution

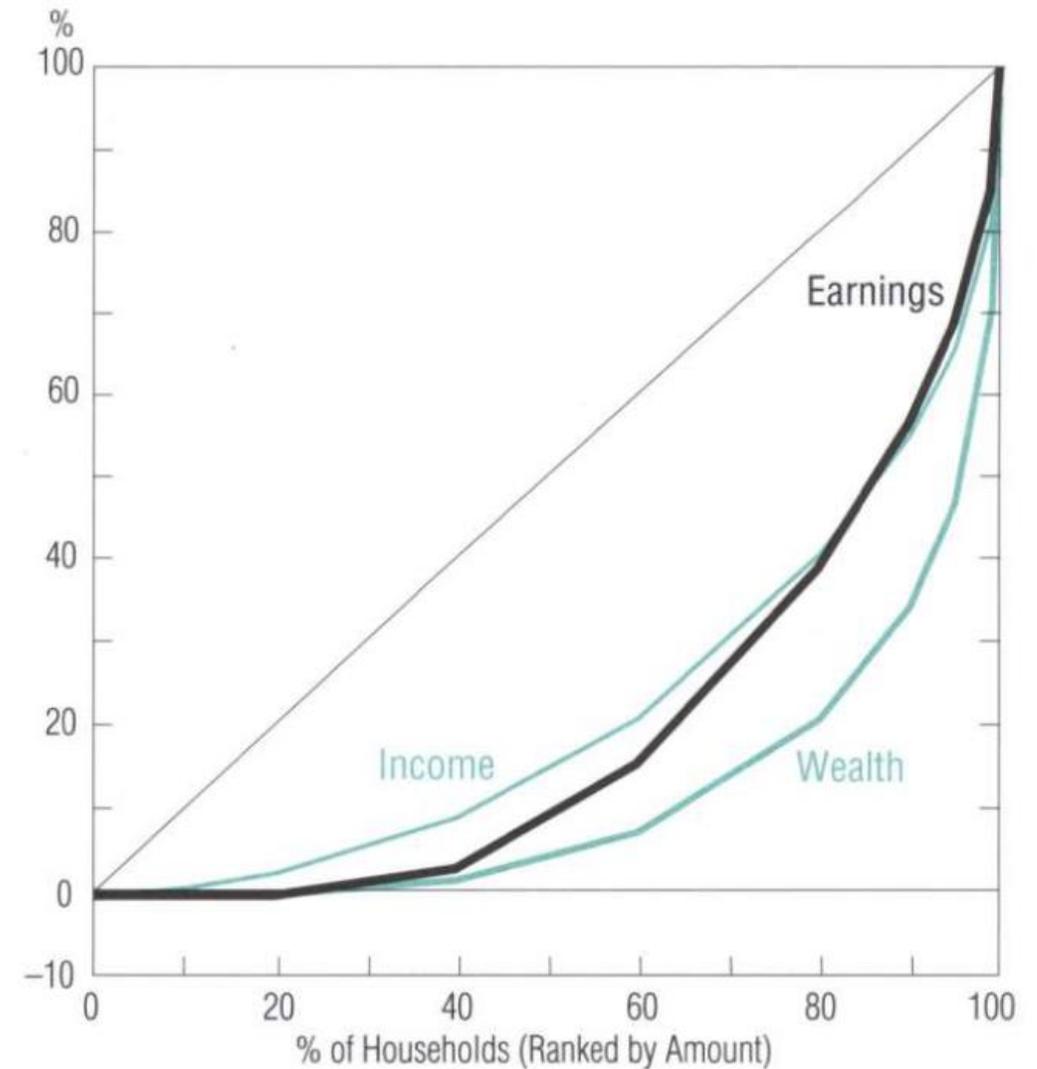
- **Lorenz curve:** What % is received by bottom  $n\%$  of population?
  - 45° line is perfect equality: Bottom  $n\%$  receive  $n\%$  for all  $n$
  - Backward-L would be perfect inequality: Richest person has everything
- **Gini coefficient:** Area  $A/(A+B)$  in graph
  - Gini of 1 is perfect inequality; 0 is perfect equality
- Lorenz curves are very different for earnings, gross income, net income, wealth





# Distributions of wealth, income, earnings

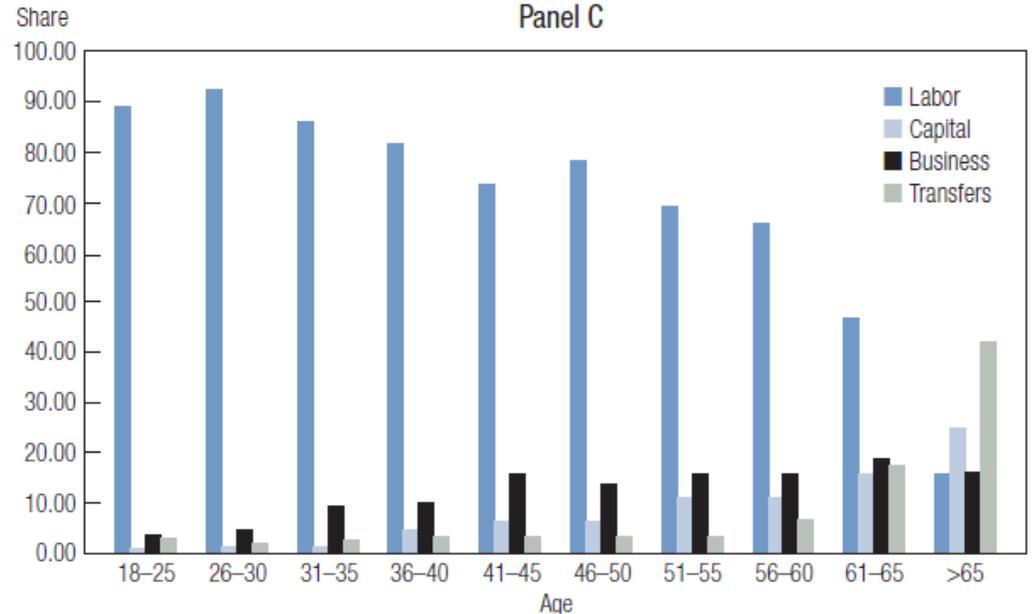
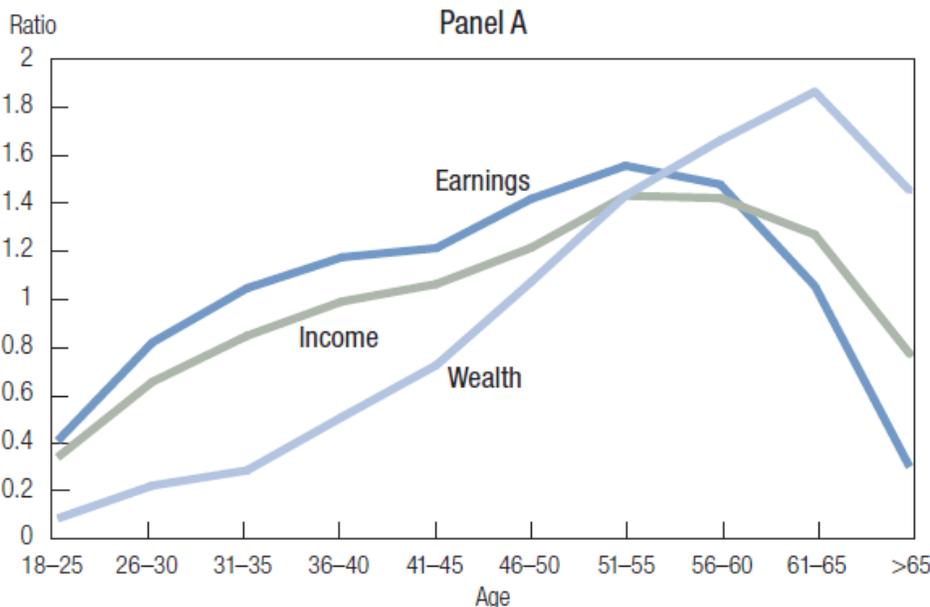
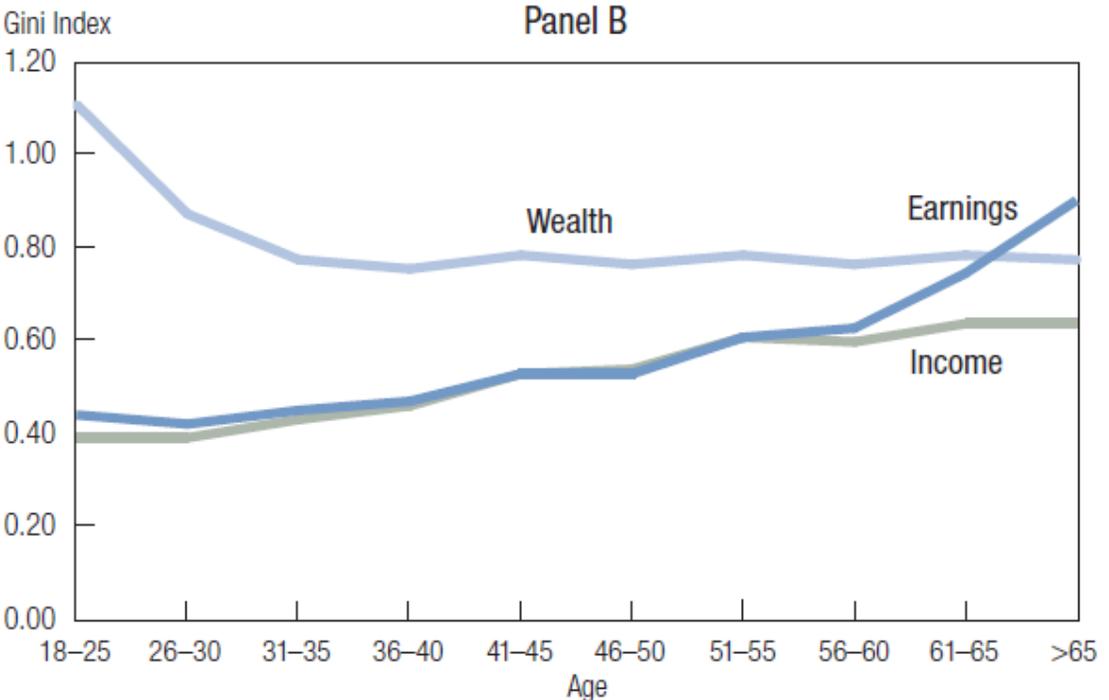
- These are very old (1992) U.S. data
- Wealth is most unequal
  - Some of this is age distribution
- Gross labor earnings are very unequal
- Net income is less unequal at lower incomes due to government redistribution policies





# Distribution by age

- 2007 U.S. data
- Panel A: Average values
- Panel B: Gini coefficients
- Panel C: Sources of income

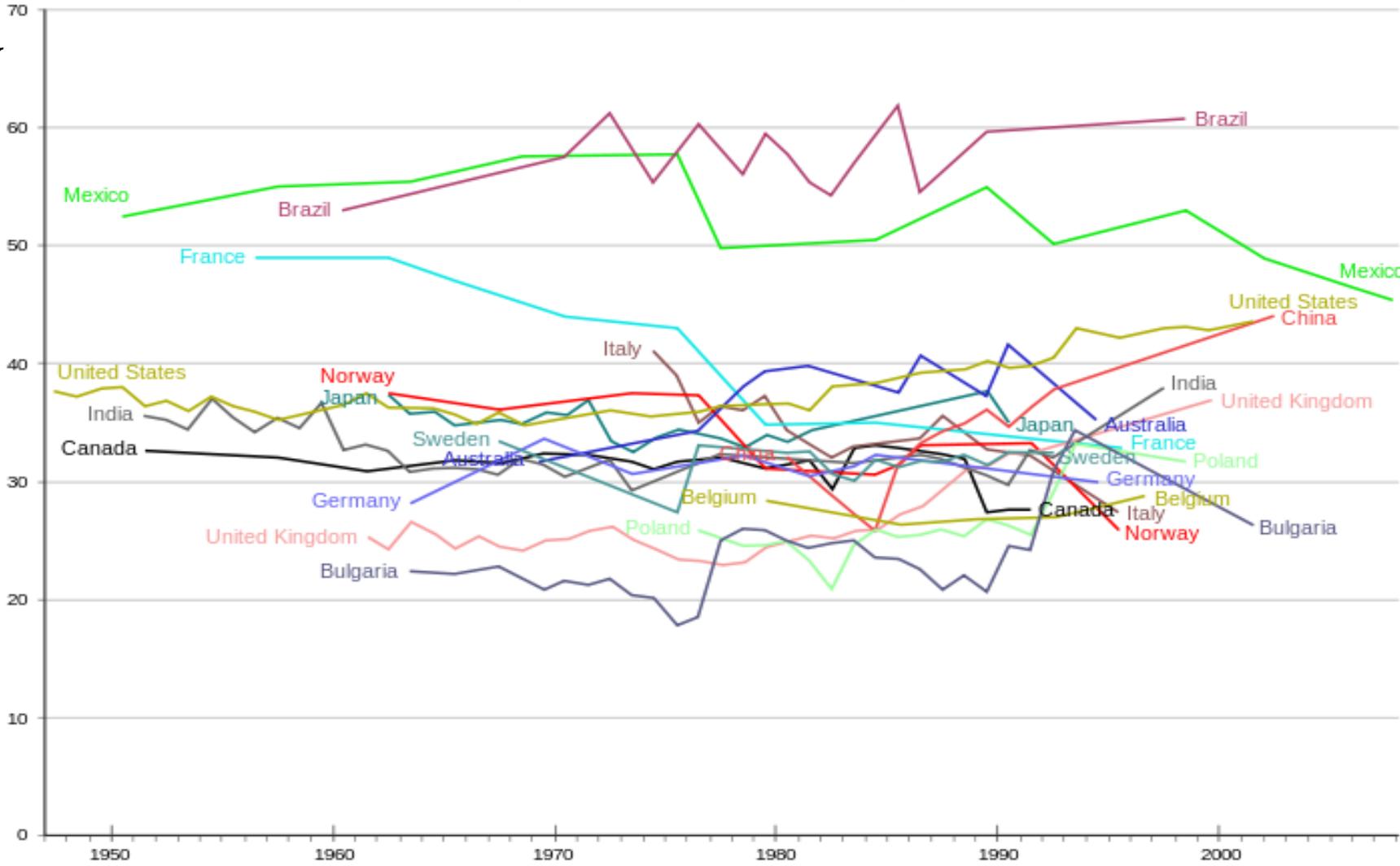




# Recent experience

- Increasing inequality in U.S., U.K, China since 1980
- Decreasing in Mexico, France, Norway

Gini Index - Income Disparity since World War II  
where 0 is perfect equality, and 100 is perfect inequality (i.e., one person has all the income)





# Inequality and mobility

- How feasible is it for people to move from lower to higher positions in the income distribution?
- Table 1 from reading shows that there is considerable persistence in a household's quintile
  - 72% of top fifth are still there 10 years later
  - 64% of bottom fifth are still there
- How much will children's position differ from parents?

**Table 1. Transition Matrix of Household Income, 2003–2013**

Original quintile (poorest to richest)	Quintile 10 years later				
	1	2	3	4	5
1	<b>0.64</b>	0.24	0.08	0.03	0.01
2	0.23	<b>0.45</b>	0.24	0.07	0.02
3	0.08	0.20	<b>0.46</b>	0.23	0.04
4	0.04	0.07	0.19	<b>0.54</b>	0.18
5	0.03	0.04	0.06	0.16	<b>0.72</b>



# The 1%

- How do people get super-rich?
  - Great ideas?
  - Hard work?
  - Good luck?
  - Corruption and rent-seeking?
  - All of the above?
- Are CEOs really worth what they make? How much rent is in their paychecks?
- Lots of questions and not so many clear-cut answers



# Review

- Equality of outcome vs. equality of opportunity
- Rawlsian justice as possible choice criterion
  - Choice is essential not answerable by economic theory
- Incomes vary for many reasons
  - Fundamentally, labor income depends on MRP
- Government pro-equality policies usually have efficiency costs
- Lorenz curve and Gini coefficient measure inequality
- Incomes and wealth have become more unequal in U.S. since 1980
  - Some, but not most, of that is change in age distribution



# Daily diversion

Ambrose Bierce had a cynical attitude toward elections, as witnessed by this definition (from before women's suffrage):

**Vote**, *n.*, The instrument and symbol of a freeman to make a fool of himself and a wreck of his country.



# What comes next?

- Macro!
- This was final class of the micro section of the course.
- On Wednesday we start discussing macro with an introductory class.
- Wednesday's case study discusses the Great Depression, a foundational experience in the origins of macroeconomics
- The second midterm exam happens on Friday and covers the micro material since the first midterm exam