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LECTURE 07: INCOME INEQUALITY

I. Of Pie

a. When economists talk of income inequality we typically talk in terms of pie: our metaphor for income.

    i. "Equal slices of pie" implies an equal amount of income.

    ii. The "size of pie" refers to how much total income there is.

b. The metaphor is quite useful: imagine we're eating pie together and you cut yourself a very big slice, leaving less for everyone else. If you eat that whole big slice of pie, it might start out very satisfying but that joy is quite dulled at the end.

    i. In other words, there are diminishing marginal returns.

c. Meanwhile, everyone else only has a little bit of pie. We'd like some more. Because we've had so little, a bit more would make us a lot happier.

    i. If you take less, there is a small decrease in overall satisfaction.

    ii. If we take what you gave up, there is a much larger increase in satisfaction.

    iii. Reallocation of pie makes the group happier; this is why you typically split a pizza (pie) evenly. Equal shares maximizes satisfaction.

d. But suppose the pie isn't given to us. Suppose we made it together. Also suppose you worked very hard to make the pie while the rest of us slacked off. If we all take equal slices, you might not want to work as hard when we make pie again because you won't be compensated fairly.

    i. As a result, the size of the pie shrinks; not enough is being done to make it large.

e. Thus the essential question: how do you slice the pie when the more equal the slices, the smaller the pie?

    i. This is called the *equality-efficiency trade-off*.

II. Why is there income inequality?

a. One major issue is compensating differentials. Because high wages induce people to enter a market, wages rise if there are few people willing to enter a market, correcting the shortage.

    i. For example, consider malpractice suits. Doctors are regularly sued for alleged incompetence or poor care, even if these suits are frivolous.
    ii. To combat the threat of suits, doctors increasingly do a lot of paperwork and extra tests. They spend less time interacting with patients and more time doing rather dull work.
    iii. As a result, the cost of being a doctor has increased, or the supply curve shifts to the left. In order to keep up the same number of doctors, you have to pay them.

b. Fun jobs are jobs with lots of people interested in doing them. The wage for that job falls.
c. And less fun jobs means there are few people willing to do them. The wage for that job rises.
d. A *compensating differential* is a difference in wages that offsets differences in working conditions.
    i. Thus, dangerous jobs pay more than less dangerous jobs.
    ii. Boring jobs pay more than exciting jobs.
    iii. Jobs with lots of flexibility pay less than jobs with little flexibility.
    iv. Professors, given our education level, don't get paid that much. But we have some of the best working conditions in the world.
    v. Due to compensating differentials, all jobs should be equally desirable for the random individual.

e. That's just one of the reasons for income inequality but there are others. Some of them are fair reasons and some are not. Let's build on compensating differentials and expand our list.
    i. *Risk*—Dangerous jobs get paid more. Safe ones, including ones with a regular income versus an uncertain one, get paid less.
    ii. *Preferences*—Others choose jobs with a lot of leisure time or flexible hours and get paid less. Some jobs, however, are stressful and get paid more. People have difference preferences and jobs with popular preferences will have less pay. Jobs with rare preferences will be paid a lot, even if the people who have that job have the rare preferences. Such people are unusual.
    iii. *Ability*—Some people are more productive than others. This could manifest as intelligence, grit, physique, diligence, or other desirable social, physical, or mental traits.
    iv. *Education/Experience*—You know this well; more education increases earning potential. We've talked about how some of

that is skill building and some of it is signaling (which is then really a reference to the previous point).

v. *Cronyism*—Some companies/people make money not because they are productive but because they've restricted competition and/or garnered political favors.

vi. *Luck*—Some people are born lucky; they have well-off parents who can help them build the human capital which lets them get a good job. Others are unlucky: they might be stricken with a disease or started off in a low-income family which interfered with their ability to make themselves more productive.

   1. The diminished incentive effect on redistributing income based on this criterion makes the "shrinking pie" danger less likely.

vii. *Discrimination*—Many individuals have less income because of bigotry including bigotry based on race, gender, creed, sexual orientation, and gender identity. But it's very hard to detect; we'll have to discuss this more to see.

III. The gender pay gap

a. Consider the pay gap between men and women which is often cited as about 80 (79.56) cents on dollar. In other words, for every dollar men make, women make about 80 cents.[1]

b. This is the result of a crude averages. It is deceptive because it assumes men and women have the same kinds of jobs. They don't.[2]

   i. Men are more likely to work in the sciences, finance, and engineering.
   ii. Men are more likely to work dangerous jobs.
   iii. Men tend to work longer hours.
   iv. Women are less likely to negotiate a higher salary when they get hired.
   v. Women are more likely to leave the labor force for long periods of time.
   vi. Women are more likely to seek jobs with flexible hours.

c. When adjusted for these variables, gender discrimination accounts for no more than 5% of the pay gap. There is certainly still sexism in the market place and it seems likely it accounts for some income inequality. But not much.

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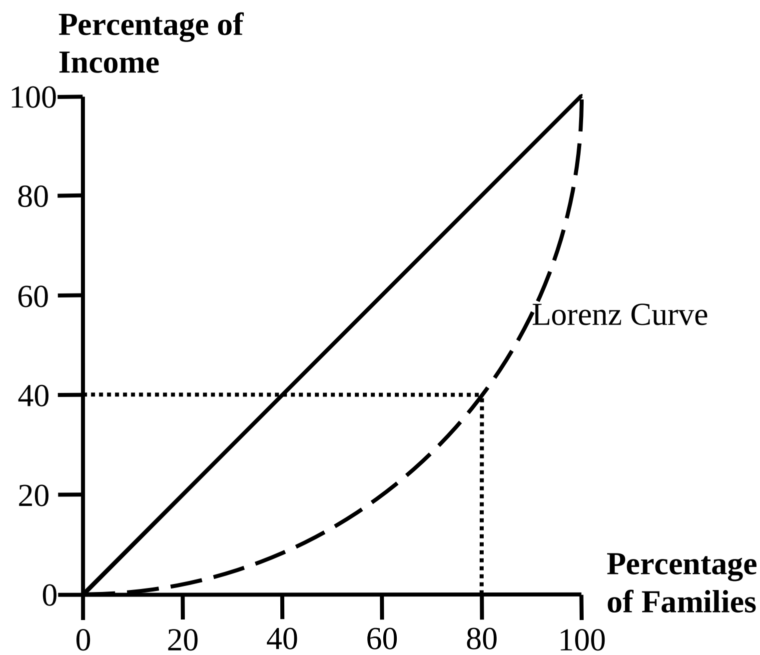
[1] https://www.census.gov/content/dam/Census/library/publications/2016/demo/p60-256.pdf page 10

[2] http://online.wsj.com/news/articles/SB10001424052702303532704579483752909957472

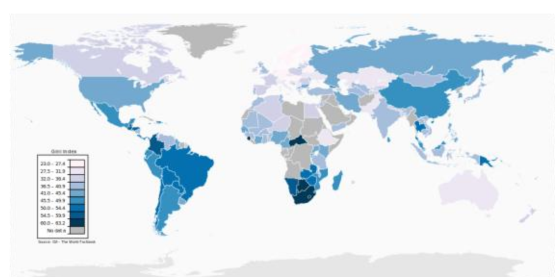
IV. Measuring inequality

a. Imagine we're going to add up everyone's income starting with the lowest and ending with the highest. In a perfectly equal world, the bottom 20% of families will have 20% of income as the top 20% of families has 20% of income. This equal world is represented by a 45-degree line.

b. The actual distribution is the Lorenz Curve. Like the 45-degree line, it a cumulative distribution. In this example, the top 20% of earners (100 – 80) make 60% of the total income (100 – 40).



c. If you take the area between the 45-degree line and the Lorenz Curve and divide it by the total area under the 45-degree line, you get what's called the *Gini Ratio*.



i. Higher ratios mean more inequality, lower ones mean less inequality.

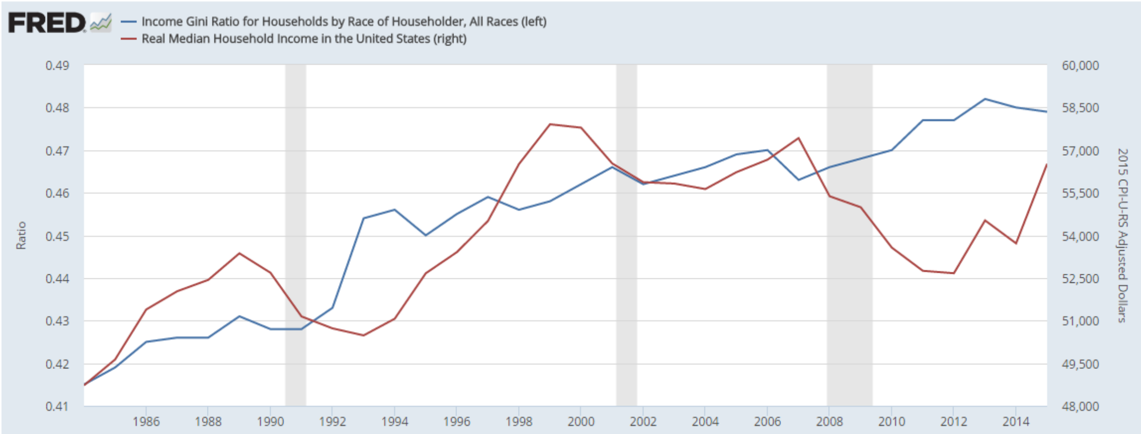
ii. It's sometimes multiplied by 100 for ease of interpretation.

iii. Here's a world map of Gini ratios. Darker countries mean higher Gini ratios.

V. A word of caution

a. It's tempting to think of higher inequality as bad and lower inequality as good. But how equal or unequal the distribution is does not tell us about a person's quality of life.

i. If the poorest people are getting richer and everyone else is getting richer at a faster rate that means more inequality. But that doesn't mean the poorest are worse off.



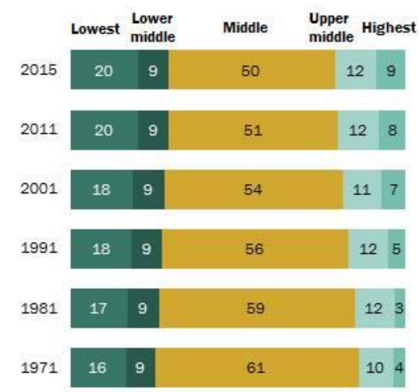
ii. Note here that while there are times Gini and median income move in opposite directions, sometimes they move in the same direction as they did in the 1990s.

b. We see this also with claims of the shrinking middle class. It's true that fewer Americans are in what's typically considered "middle class." But that's not because they are getting poorer. It's because they are getting richer.

i. Pew Research Center defines "middle" and "upper" incomes based on the size of the household, as below.

Share of adults living in middle-income households is falling

% of adults in each income tier



Note: Adults are assigned to income tiers based on their size-adjusted household income in the calendar year prior to the survey year. Figures may not add to 100% due to rounding.

Source: Pew Research Center analysis of the Current Population Survey, Annual Social and Economic Supplements

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Who is "middle income" and "upper income"?

Minimum 2014 household income needed to qualify for middle- and upper-income tiers, by household size

	1	2	3	4	5
UPPER INCOME	$72,521	102,560	125,609	145,041	162,161
MIDDLE INCOME	$24,173	34,186	41,869	48,347	54,053

Note: Middle-income Americans are adults whose annual size-adjusted household income is two-thirds to double the national median size-adjusted household income. Lower-income households have incomes less than two-thirds of the median and upper-income households have incomes that are more than double the median.

Source: Pew Research Center analysis of the 2015 Current Population Survey, Annual Social and Economic Supplement

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