

Wage Structure and Inequality: Second Lecture

LABOR ECONOMICS (ECON 385)

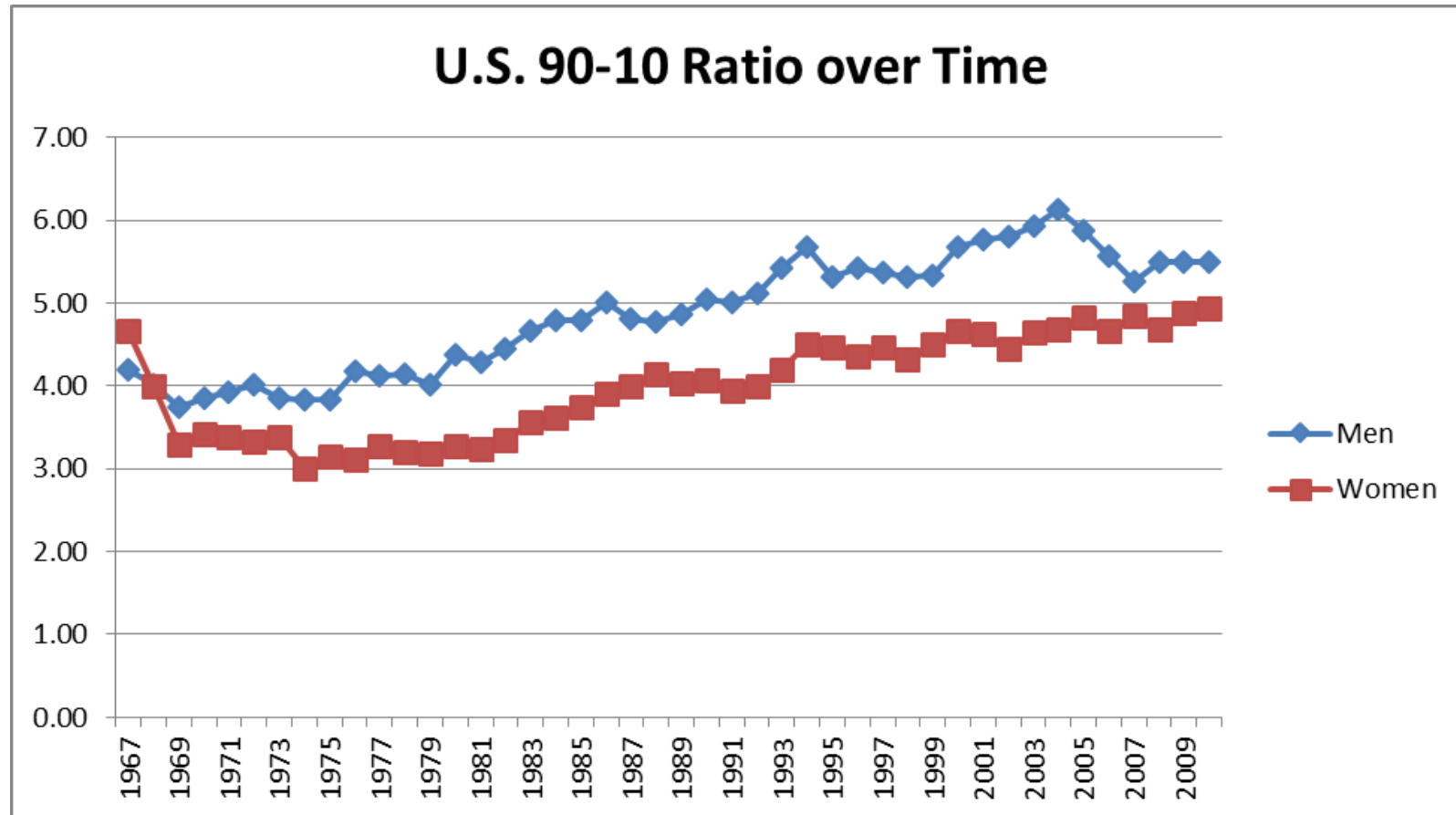
BEN VAN KAMMEN, PHD

“What is the trend in inequality over time?” (United States statistics)

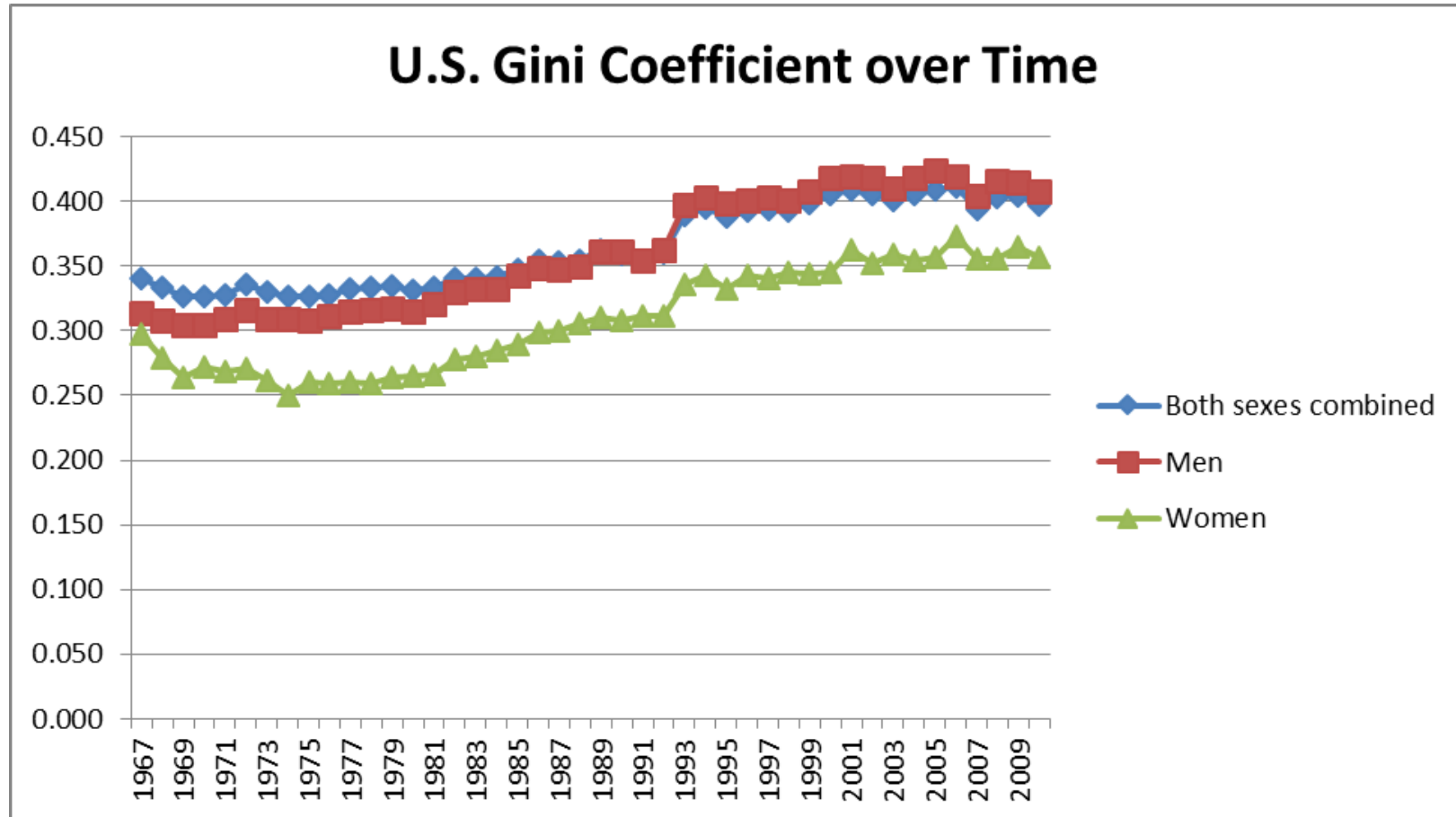
- According to the metrics that are easily graphed over a series of time periods, U.S. inequality has increased since the late 1960s.*
- The 90th to 10th percentile ratio has increased from the range of 3.5 to 4 in the early 1970s to 5 to 5.5 in the last decade.
 - The increase appears relatively larger among men than women.
- The Gini coefficient has also increased over time—rising from around 0.35 in the 1970 to around 0.4 in the most recent decade.
 - Again there appears to be evidence that it increased more among men than among women.

*The following charts are produced using data from the U.S. Census Bureau available at: <http://www.census.gov/hhes/www/income/data/historical/inequality/index.html>. They compute the inequality measures among full-time year round wage earners to abstract from changes in labor supply over time.

Inequality trends over time (continued)



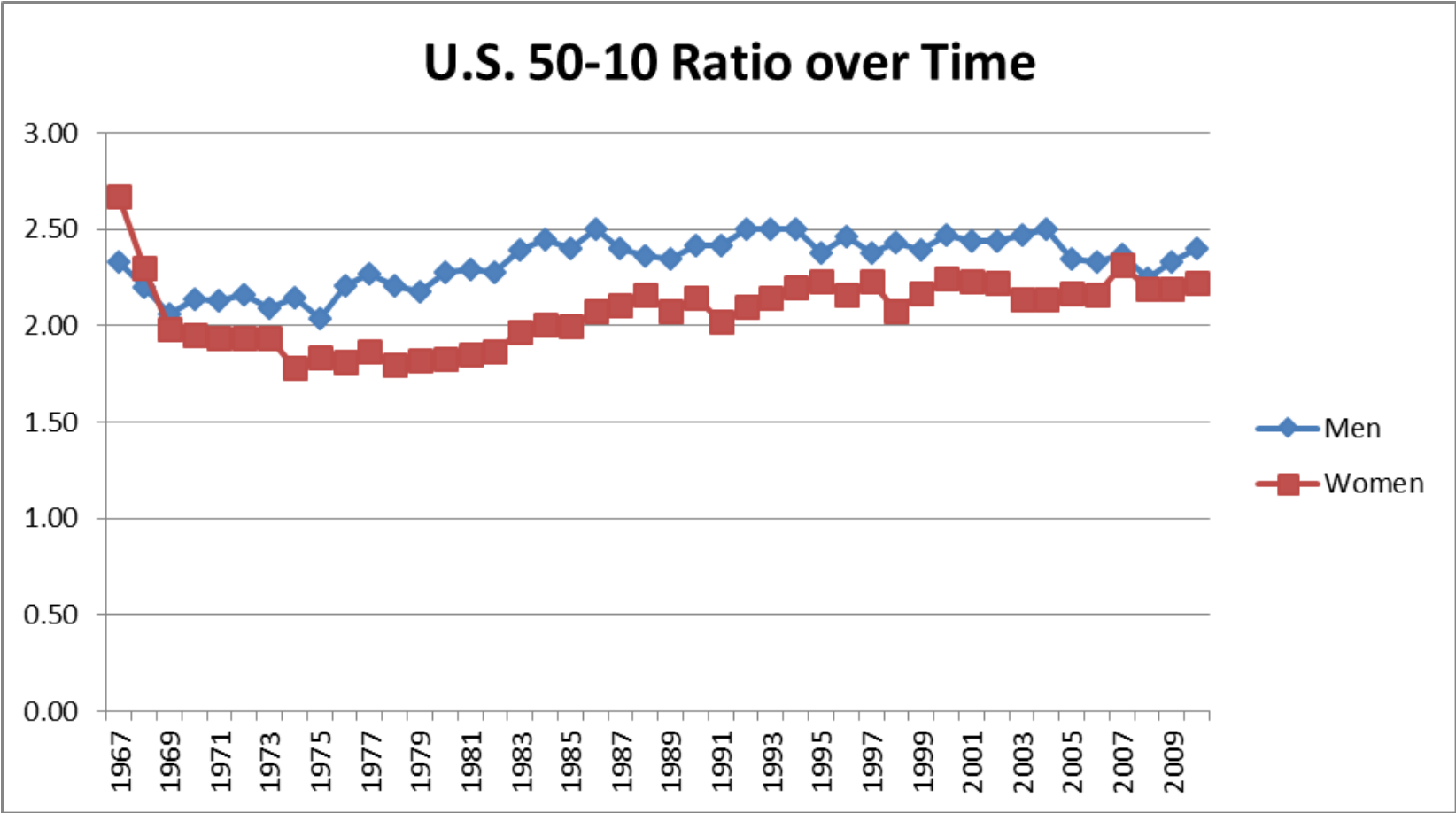
Inequality trends over time (continued)



Inequality trends over time (continued)

- The 50th to 10th percentile ratio has increased over time if you view only the beginning and the end of the time series. But in the middle (1980s and 1990s) the trend was fairly flat.
 - The 50-10 ratio supposedly gives a view into how the lower tail of the distribution is “falling behind” the representative American wage earner. Considering only full time year round workers complicates this interpretation, though.
 - Since lower labor supply and participation is a hallmark of the lower end of the earnings distribution, this data probably understates the degree to which poor workers have fallen behind the median. This is because the sample excludes part-time and non-participating workers that are usually characterized by falling real wages over the last couple decades.
 - Including these workers would probably increase the 50-10 gap.
- Another consideration, though, is the receipt of in-kind benefits by poor individuals like food and energy assistance. Including the value of in-kind benefits could offset the decline in their wage incomes over time.

Inequality trends over time (concluded)



Inequality trends *within* groups

- Similar trends in inequality can be observed across groups defined by:
 - Educational attainment: the wage differential between college graduates and non-graduates increased. Between 1980 and 2010 the premium for a college degree rose from 50% to nearly 100%.
 - Experience: again rising returns to experience.
- Earnings inequality also increased within groups defined by:
 - Occupation,
 - Industry,
 - Age,
 - Gender, and
 - Schooling.

One huge caveat about interpreting all of these statistics

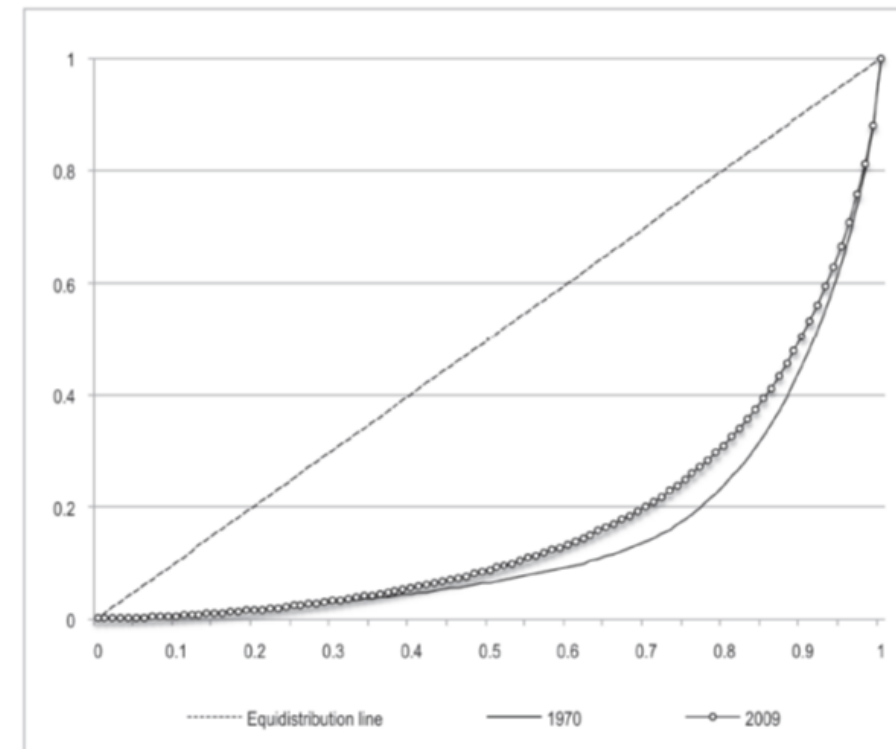
- Each plot on the graphs represents a cross-section of the U.S. at a point in time. Nothing reported so far accounts for the mobility of individuals over time within the distribution.
 - The person in the 10th percentile in 1995 could be in the 75th percentile in 2000 (or vice versa). If there is this kind of mobility within the distribution, many of the distressing consequences of inequality become less important. Inequality—in the extreme case—becomes nothing more than a problem of “earnings over the life cycle”.
 - I.e., all the low wage workers are young and the high wage workers are old; young workers eventually age and become high wage workers. To the extent that this is true, lifetime income is much more equal than these figures suggest.*
 - Haider concludes that the inequality increase observed in the period 1967-1991 can be explained by roughly equal contributions from permanent income and instability over the life cycle.

*More on this can be found in: Haider, Steven J. 2001. “Earnings Instability and Earnings Inequality of Males in the United States: 1967-1991.” *Journal of Labor Economics*, Vol. 19, No. 4: 799-836.

Worldwide inequality trends

- World income inequality has declined over the same period that within country inequality has increased.
- The figure (right) is the Worldwide Lorenz Curve.
- From Liberati, Paolo. “The World Distribution of Income and Its Inequality, 1970-2009.” The Review of Income and Wealth, doi: 10.1111/roiw.12088.

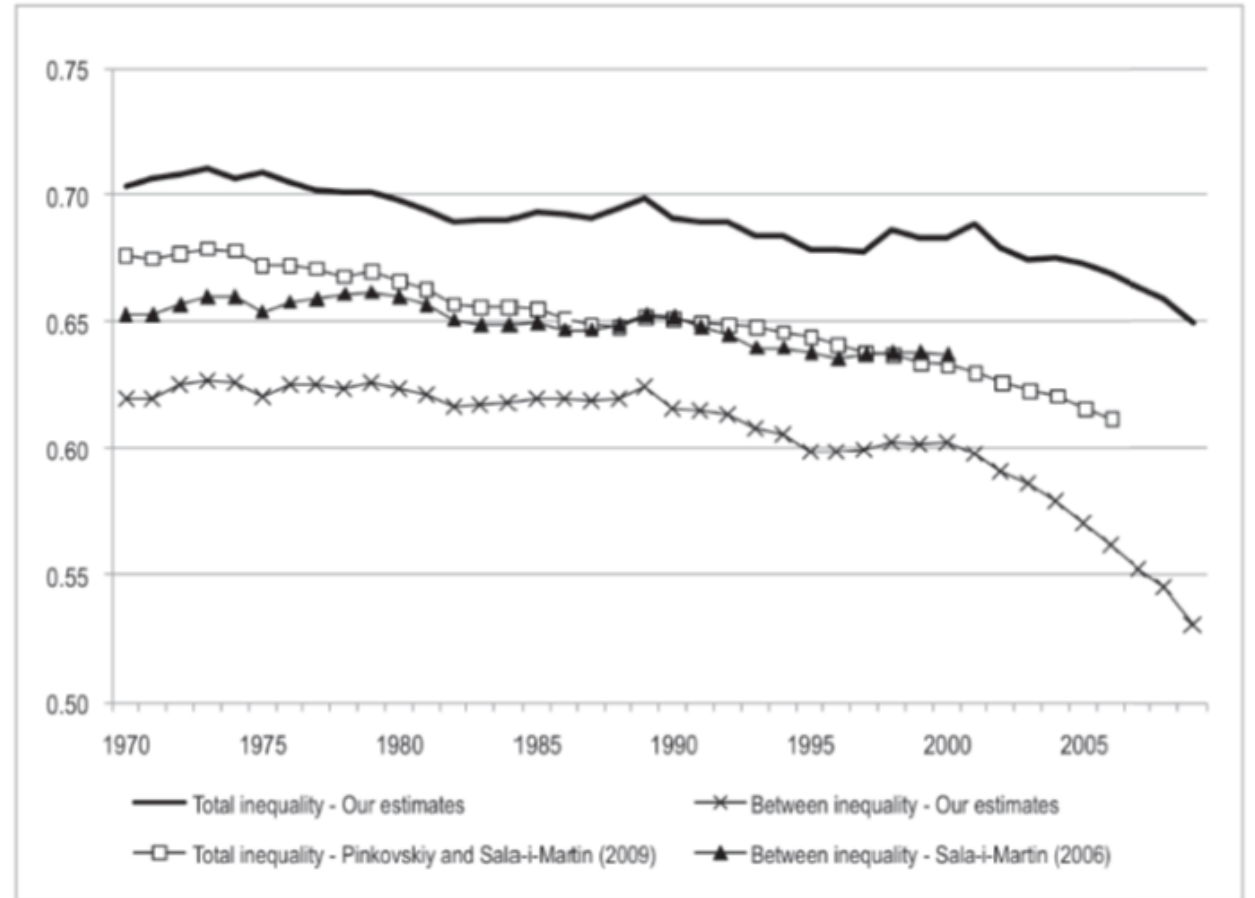
Figure 6 – *The concentration of world income*



Source: *Author's calculations*

Worldwide inequality trends (continued)

- The worldwide Gini Coefficient has also been falling steadily, and this is robust to different strategies for dealing with price levels.



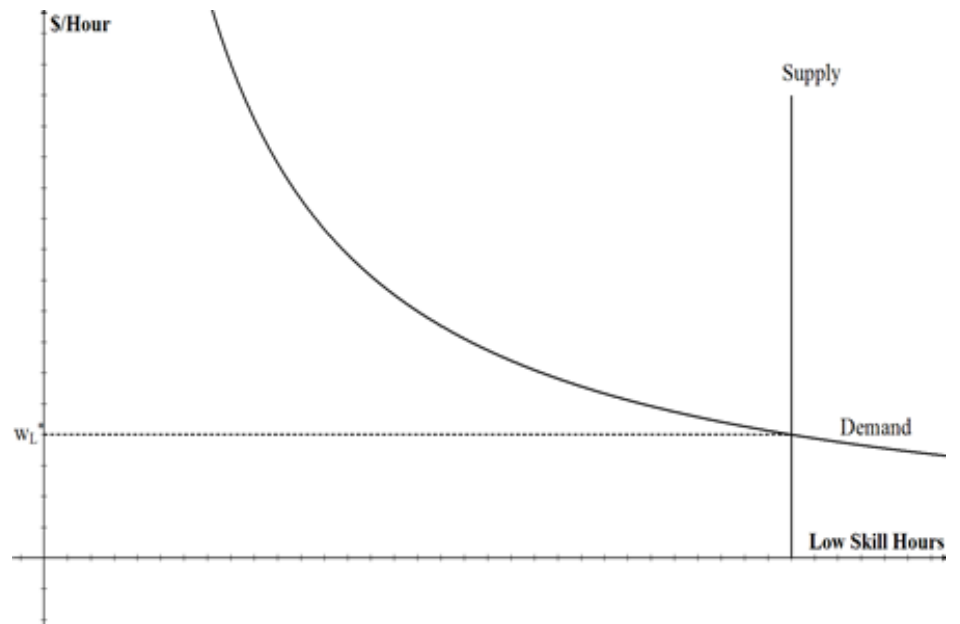
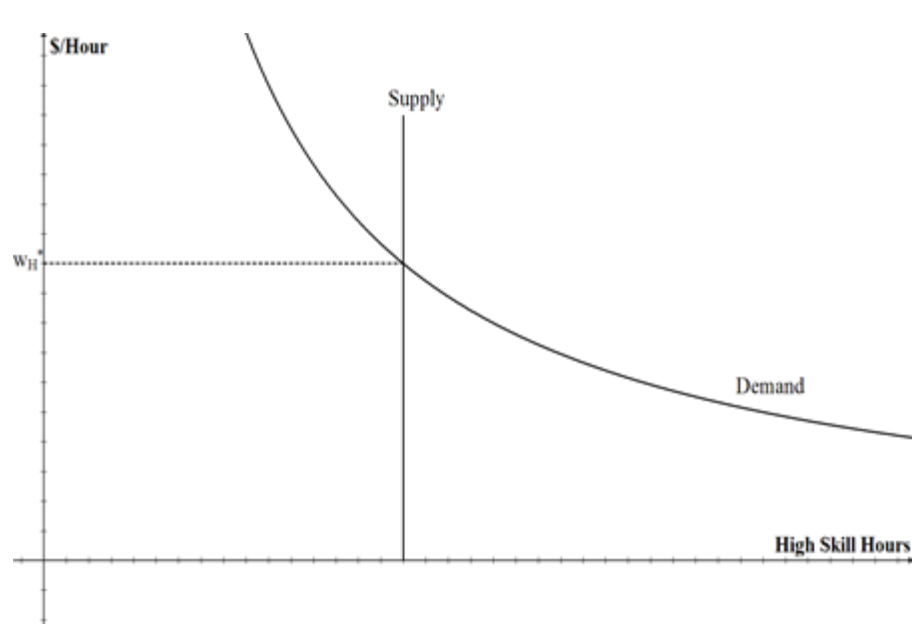
Why has the increase in inequality over time occurred?

It's the most predictable reason an economist can give, but here we go: "supply and demand."

- Abstract away, for a moment, from some of the particular reasons people earn different wages, e.g., compensating differentials, et al.
 - Recall the simplest illustration of a labor market—supply of and demand for labor intersecting to determine an equilibrium.
 - Now recall that labor markets are segmented according to things like education, geography, and skill.
- To analyze changes in relative wages, consider a pair of markets for labor that are the same except for the skill level required of the worker, i.e.,
 - they are located in an homogeneous geographical space,
 - both require the same number of years of schooling and experience,
 - but one market is for high skill workers and the other is for low skill workers.

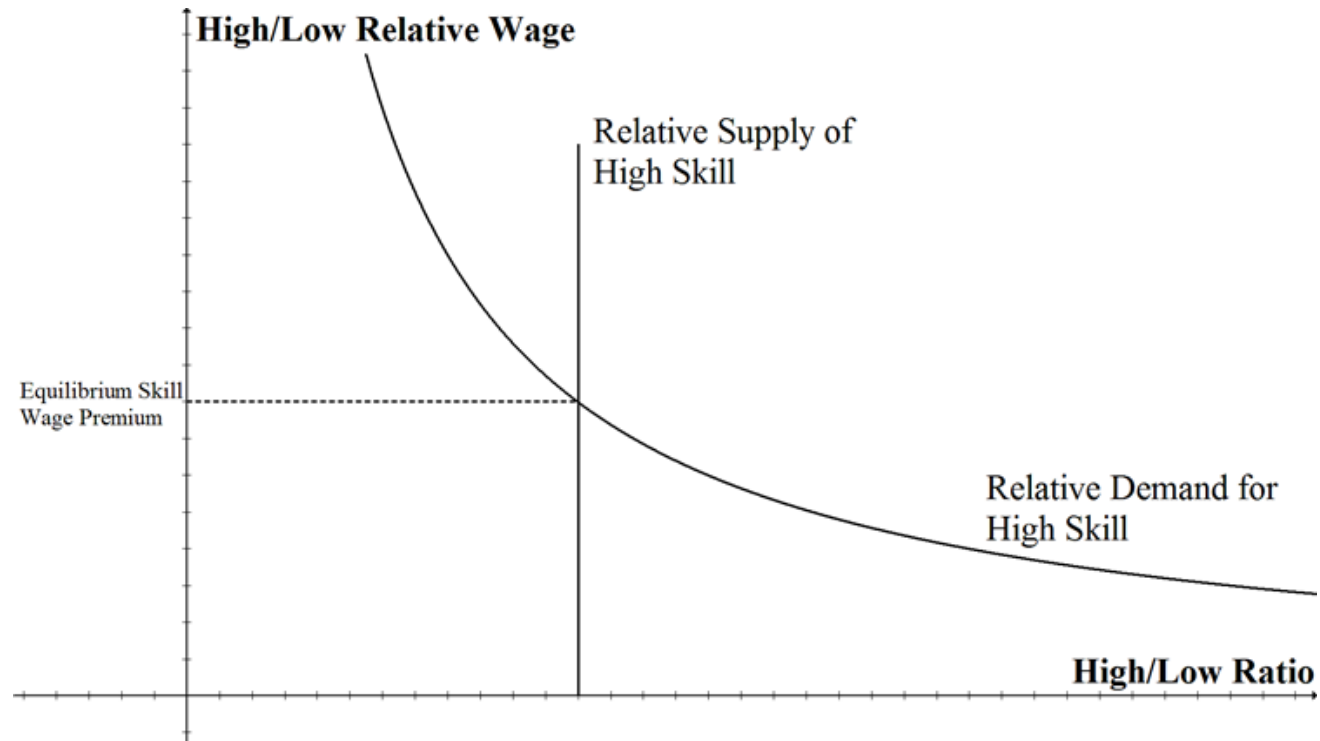
High and low skill wages

- Note that this is a short run depiction because the number of high and low skill workers is perfectly inelastic (fixed).
- The equilibria in the two markets should also be such that the wage level for high skill is higher than the level for low skill.



The skilled wage premium

- To illustrate the skill premium, i.e., the relative wage of high skill workers to low skill workers, consider the relative supply of and demand for high skill compared to low skill.

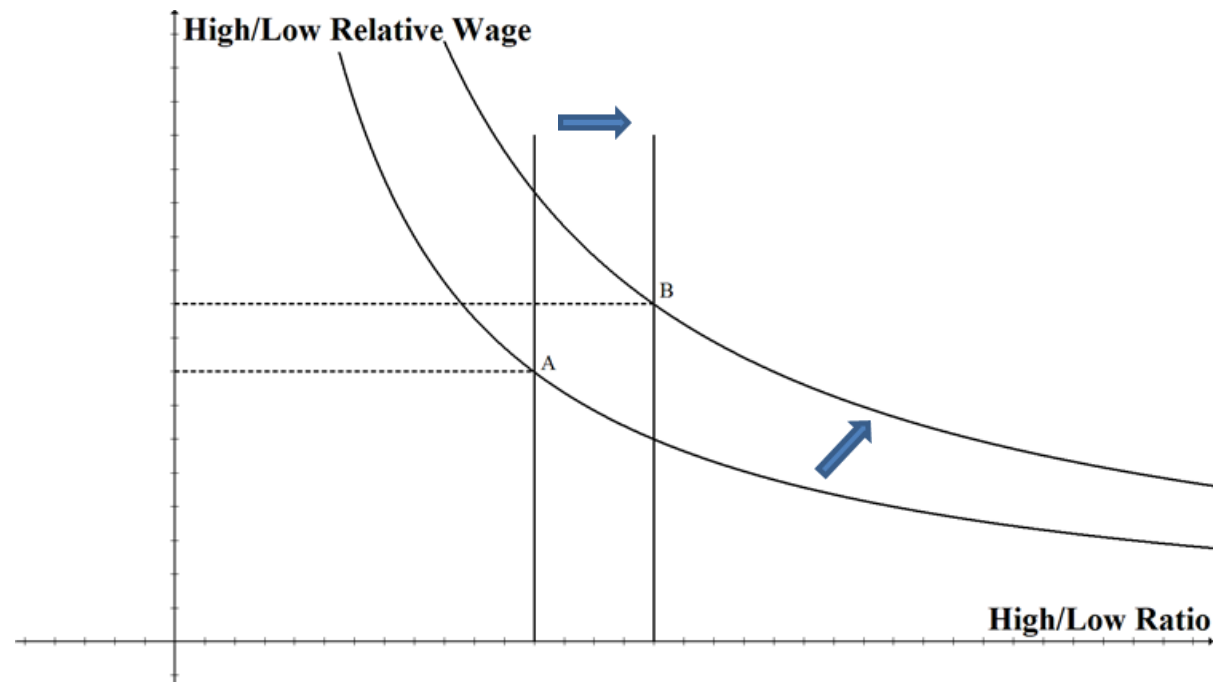


Change in the skilled wage premium

- In order to illustrate the observed increase in the premium paid to high skill workers (can also mentally substitute “college-educated workers”), a shift would have to occur that increases the equilibrium level of $\frac{w_H}{w_L}$.
- An increase in the relative demand for high skill workers or a decrease in the relative supply of high skill workers would accomplish this.
- The graph on the next slide roughly describes what has happened to the relative demand and supply and wage premium over the past 30 years or so.

Rising skill premium

- Both the relative demand and relative supply of skilled labor have increased, however, the relative supply has increased by less than the demand has. This has resulted in the rising premium in skilled wages (movement from A to B).



Conclusion

- Inequality has increased during the last 40 years or so, broadly and within nearly any sub-group.
- For more analysis of the facts about inequality consider reading the book, The Race Between Education and Technology by Claudia Goldin and Lawrence Katz (2010, Belknap Press).
- Rising premia for education and skill, i.e., relative to other workers with similar training and experience, explain a lot of the increase in inequality over time.
 - Goldin and Katz (p. 291): “. . . in recent decades the lion’s share of rising wage inequality can be traced to an increase in education wage differentials.”
 - This finding is from Lemieux and states that 60% of the overall increase in wage inequality can be explained by increases in the returns to schooling—especially postsecondary schooling.*
- Why has the skill premium risen? (Next lecture)

*Lemieux, Thomas. 2006. “Postsecondary Education and Increased Wage Inequality.” *American Economic Review* 96 (May): 195-199.