

LECTURE 28

2 May 2013

ANNOUNCEMENTS

- HW 10 due tomorrow
- Final exam in Anderson 330 (on May 14th 6:30 - 8:30PM)
 - If you need to take the makeup, notify headgrader@gmail.com by next Tuesday (May 7th) at 4PM
 - Start studying! **Extra** OH next Thursday 10:00 AM - Noon (**note this is a change**)
 - Review Sessions also in Anderson 330 next Friday (4-5:30 PM with me) and (6-7:30 PM)

OUTLINE

- Causes of Inequality
- Inequality Internationally
- Unions revisited
- Labor Market Discrimination

WAGE TRENDS, WAGE AND INCOME INEQUALITY

- We will consider four explanations that might explain the wage and income trends in the United States

1. Skill Biased Technical Change

2. Immigration and Trade

3. Decline of Unions (not a demand-side argument)

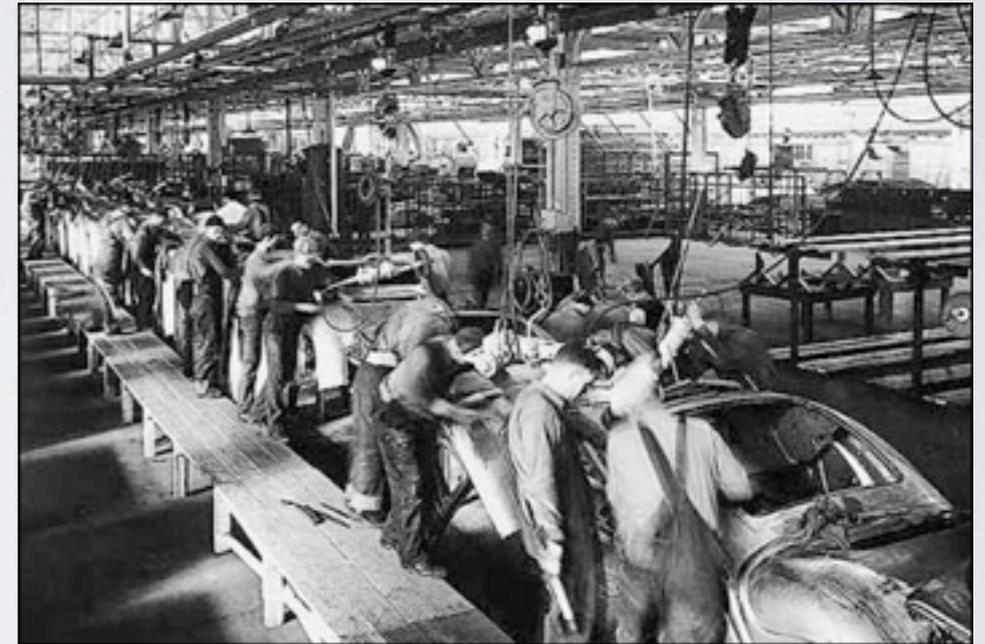
4. Economics of Superstars

REVIEW: SKILL-BIASED TECHNICAL CHANGE

- How does skilled or unskilled labor make products or provide services?
- Need other technologies to complement them
- Firms develop these technologies (computers, machines, production processes, etc.)
- **Skill-biased technical change** claims that most of this development in recent years has been for skilled labor because of the growing population of skilled labor
- In the simple story these technologies complement skilled and substitute unskilled labor
- So these technologies make skilled labor more productive (and increase demand for them) and vice versa for unskilled labor

SKILL-BIASED TECHNICAL CHANGE

- For example, consider car production
 - In the era of Henry Ford, (low skill) laborers did most of the work of assembly
 - Now Toyota can make cars with little low-skill labor and skilled labor that design the machines and cars
- The machines have substituted (replaced) the low skill labor and complemented the high skill labor
- And so demand for high skill labor has increased and decreased in the automotive sector
- Or high V. low-tech education provision

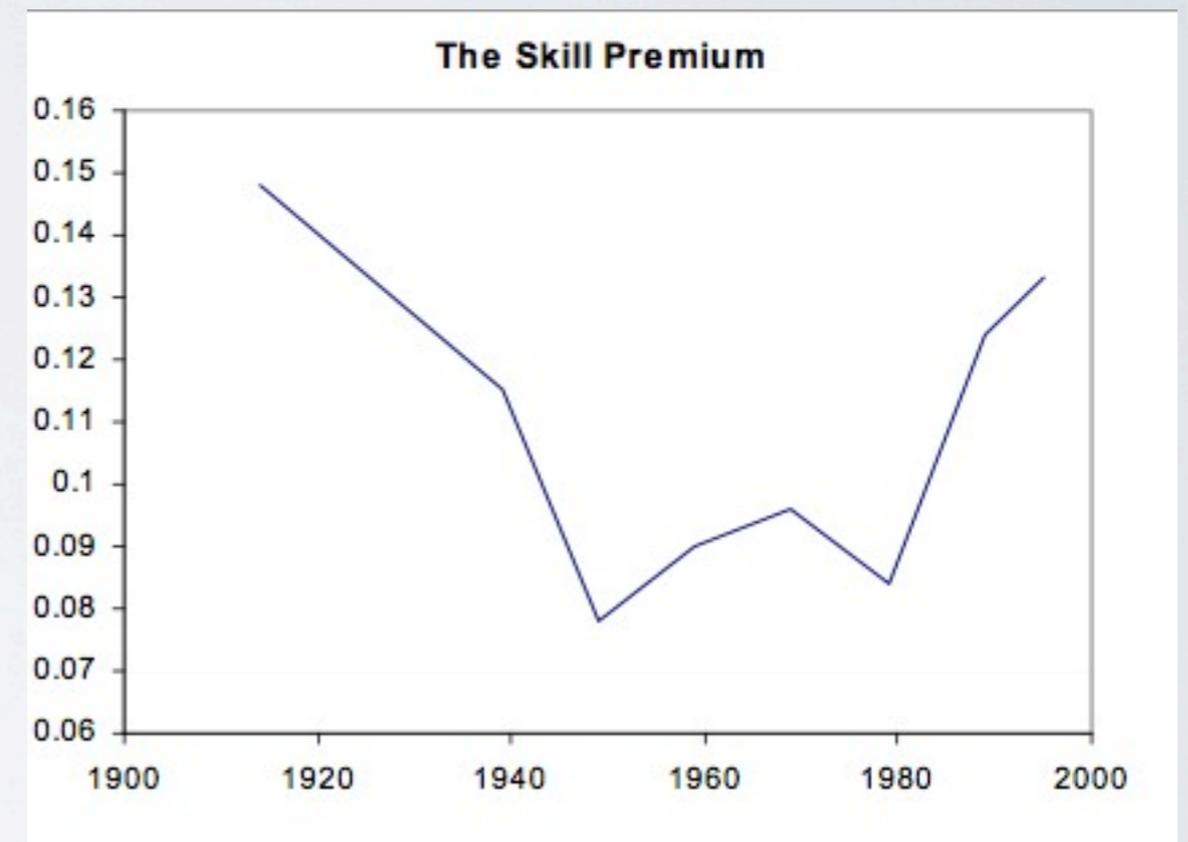


Henry Ford car production
V. Modern Toyota production



UNSKILLED BIASED TECHNICAL CHANGE

- Developing technologies biased towards skilled labor is not inevitable, though
- In the late 1800s, skilled labor was artisans and craftsman; unskilled labor were most everyone else
- The big technological leap was Henry Ford's assembly line was a technology that was a complement to **unskilled labor**; it significantly improved the productivity of unskilled labor
- With the increase in demand for unskilled labor, the skill premium decreased in that period

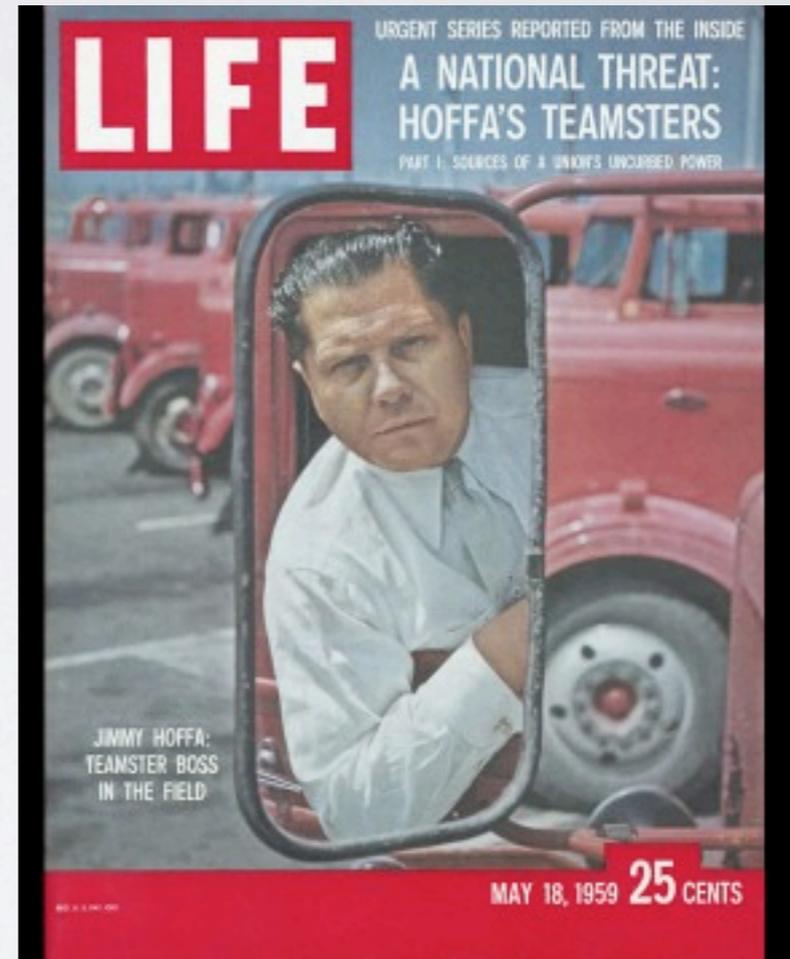


EXPANSION OF TRADE AND IMMIGRATION

- Compared to the rest of the world the ratio of skilled to unskilled workers is pretty high
 - Remember from the trade lecture that the US has a comparative advantage in producing goods that use high skill labor
 - When the US trades it exports high skill goods and import low skill goods
 - So domestic production of low skill goods decreases as it replaced by imports
- So demand for low skill labor has decreased while exporting “high tech” products has increased demand for high skill labor

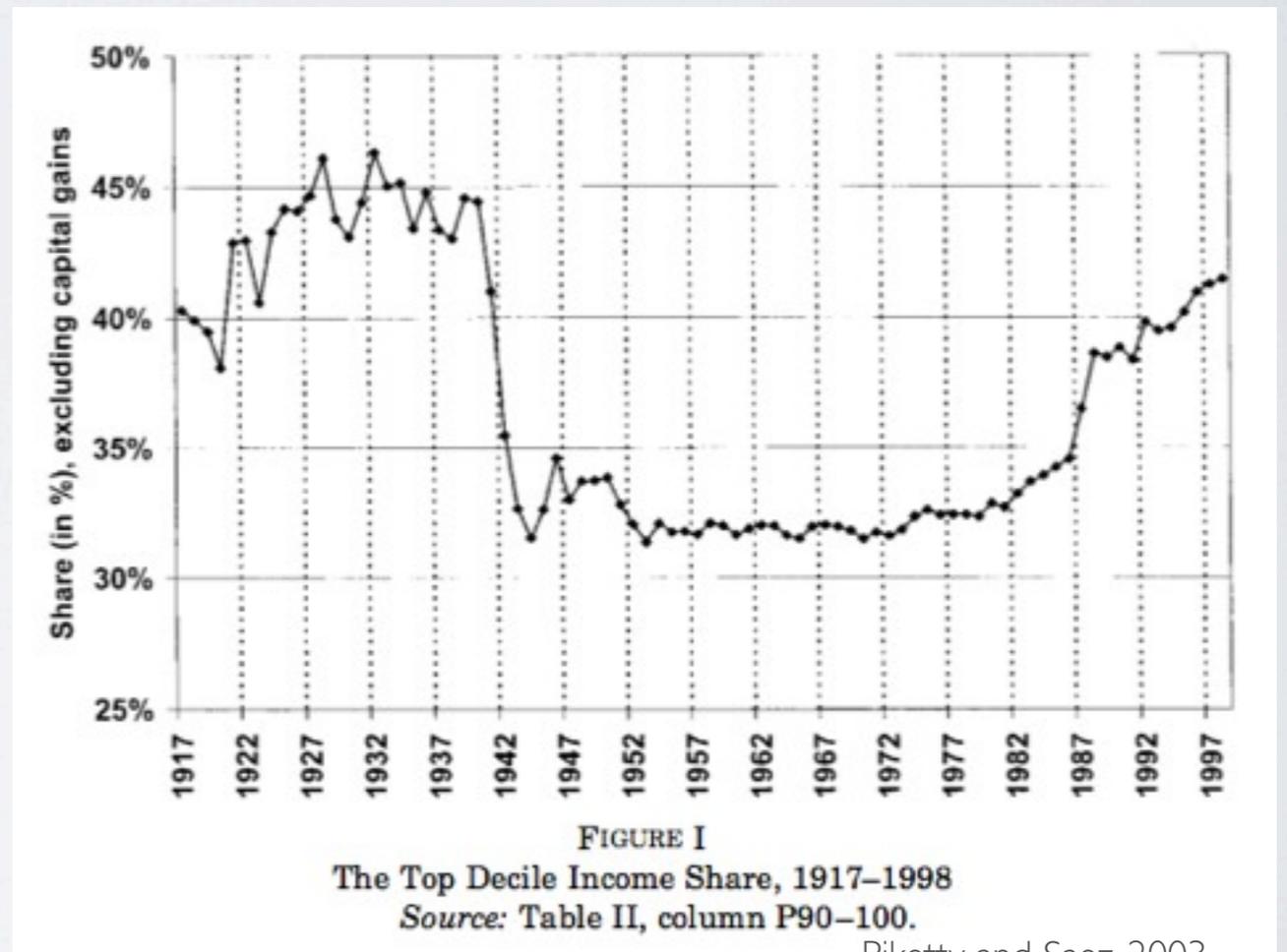
DECLINE OF UNIONS

- Unions (like the graduate student union nearly created last year) give bargaining power to, typically, low skilled workers
- When powerful can secure higher pay and benefits for its members
- Since the 50s and 60s, the power of unions has gradually declined (see Wisconsin and Scott Brown) and unskilled labor has had less leverage in increasing their own wages



99%, 1%, AND .01%

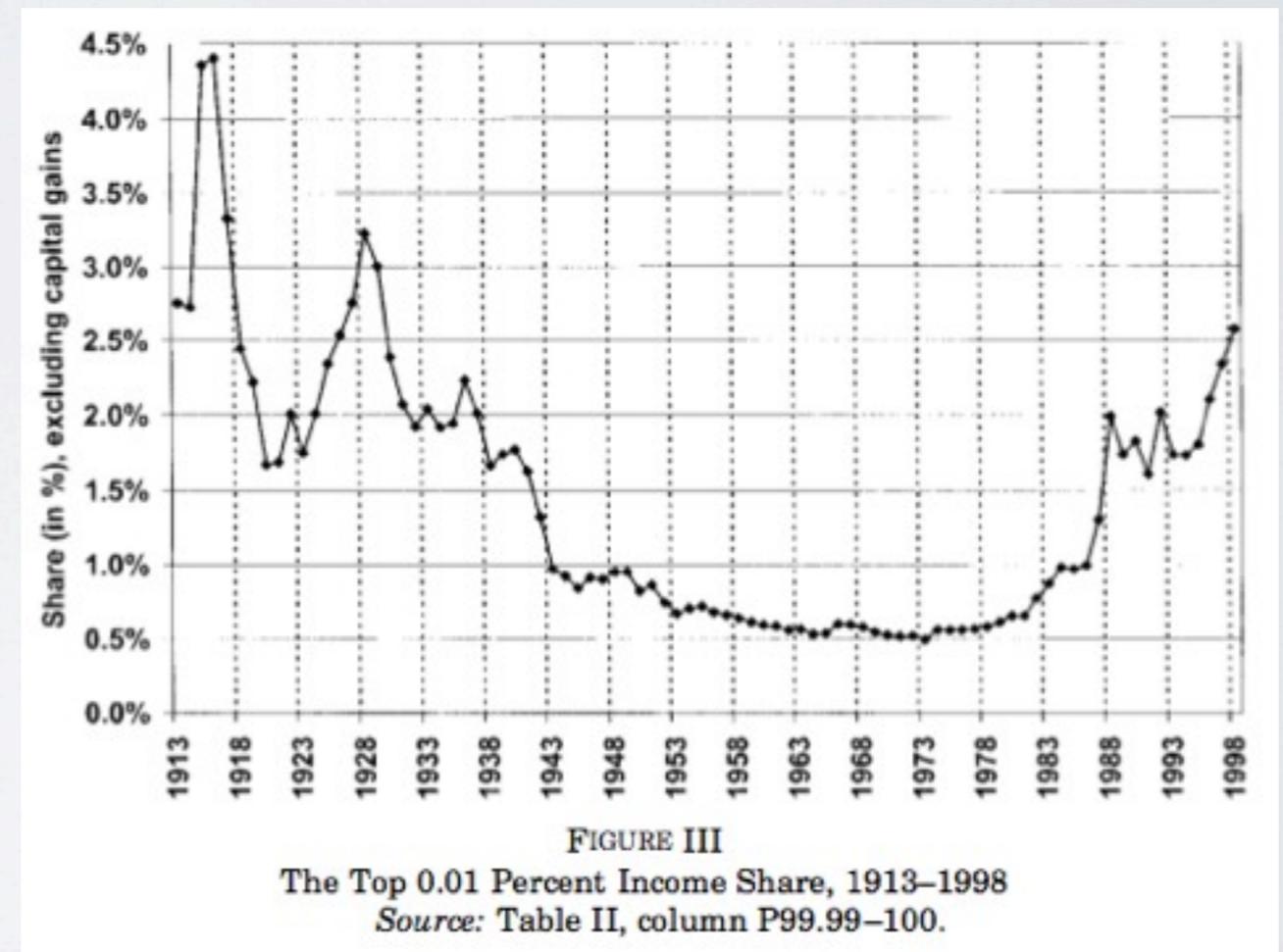
- How deep is income (not necessarily wage) inequality?
- Graph shows that since the 1980s the top 10% have had an increasing share of income
- In 1917, the top 10% had 41%, 32% in 1972 and 45% in 2005--4.5 times larger than average income
- The picture is even more stark for the top .01%



Piketty and Saez, 2003

99%, 1%, AND .01%

- The 99% like to complain about the 1%, but data show the 99.99% have reason to complain about the .01%
- In 1972, the top .01% had .5% share of income (or 50 times the average)
- By 2005, the top .01% had 3.3% share of income (330 times the average)



Piketty and Saez, 2003

VIEW FROM THE TOP

- How can we explain unbelievable trends at the very, very top?
 1. “Extreme Skill Biased Technical Change” and return to high talent (superstars)
 2. Changes in social norms about payment to superstars (i.e. we pay them more now)
 3. Looting -- the top .01% have gamed the system to divert the majority of the social pie to themselves (aka Wall Street bandits to Occupy Wall Street)

ECONOMICS OF SUPERSTARS

- The superstars (Psy, NYY players) are certainly close to the top .01%; why do they make so much more money now?
- For example, a long time ago, the money the best singer in the world was limited to income from radio and concerts
 - The 2nd, ... , 100th best singers probably made close to the same money since the best singer was limited in how many people he/she could reach
 - With the Internet, digital music, easy distribution of the services of talent, the winner can take it all
- “Winner take all” phenomena are actually an active source of discussion along with their negative impact on labor allocation (wouldn't you like to waste your time to try to be the best singer in the world if you could make 100 million dollars?)

PAYING THE SUPERSTARS

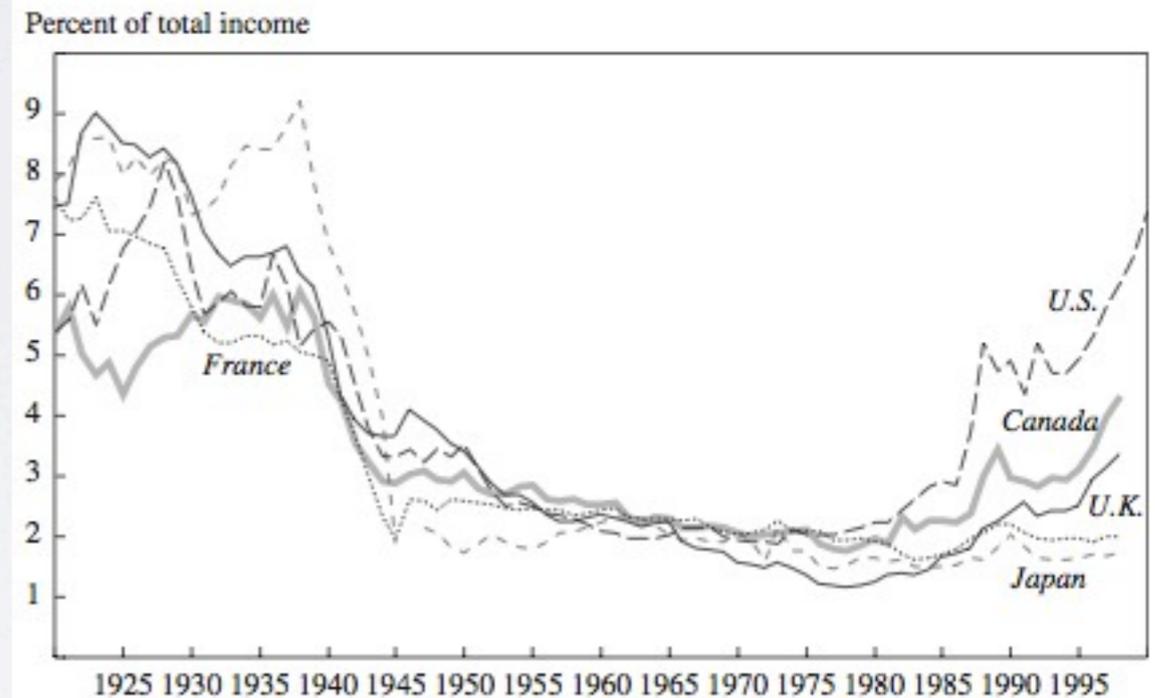
- Greatest baseball players?
 - Babe Ruth -- we won't bother looking at his salary
 - Hank Aaron
 - How do their wages compare with top players today?
- A-Rod is getting a lot more above the average than Hank Aaron
- Can be explained by social norms or maybe baseball franchises are more popular today
- Similar type of high payment seen for CEOs who are being sought after by top corporations

| | Hank Aaron (1972) | A-Rod (2007) |
|----------------|----------------------|-----------------|
| Salary | \$200 k | \$28 mil |
| GDP per capita | \$600 | \$44,000 |
| Ratio | 33 | 636 |

INCOME INEQUALITY: INTERNATIONAL VERSION

- The story rising income shares of the top 1% is very similar across many Western countries
- Notice, though, that the trend in recent years has diverged
- US has the most extreme inequality, while Japan and France have basically not since this concentration of wealth

Figure 3. Share of the Top 1 Percent in Total Income in Selected Industrial Countries, 1920–2000^a



Source: Piketty and Saez (2006b).

a. Total income includes labor, business, and capital income but excludes capital gains.

Gordon and Dew-Becker 2007

INCOME INEQUALITY: INTERNATIONAL VERSION

- This is just a picture of the top 1%, but we claimed inequality partially driven by skill-biased technical change
- Why are France (and Japan) different?
 - Labor taxes in continental Europe are far different than in the US
 - Marginal income taxes are much higher (75% top rate in France...)
 - Income taxes even out inequality but also provide disincentives to become a top earner
- NYT reported last year about the brain drain of French academics to the US: from 1971-1981 8% of US immigrants from France were academics, from 1996-2006 27% were
- One reason is pay (and for those who think US taxes are too high,, think about that Facebook guy that changed his nationality to Singapore right before the Facebook IPO...)

LABOR UNIONS



COMPETITIVE WAGE

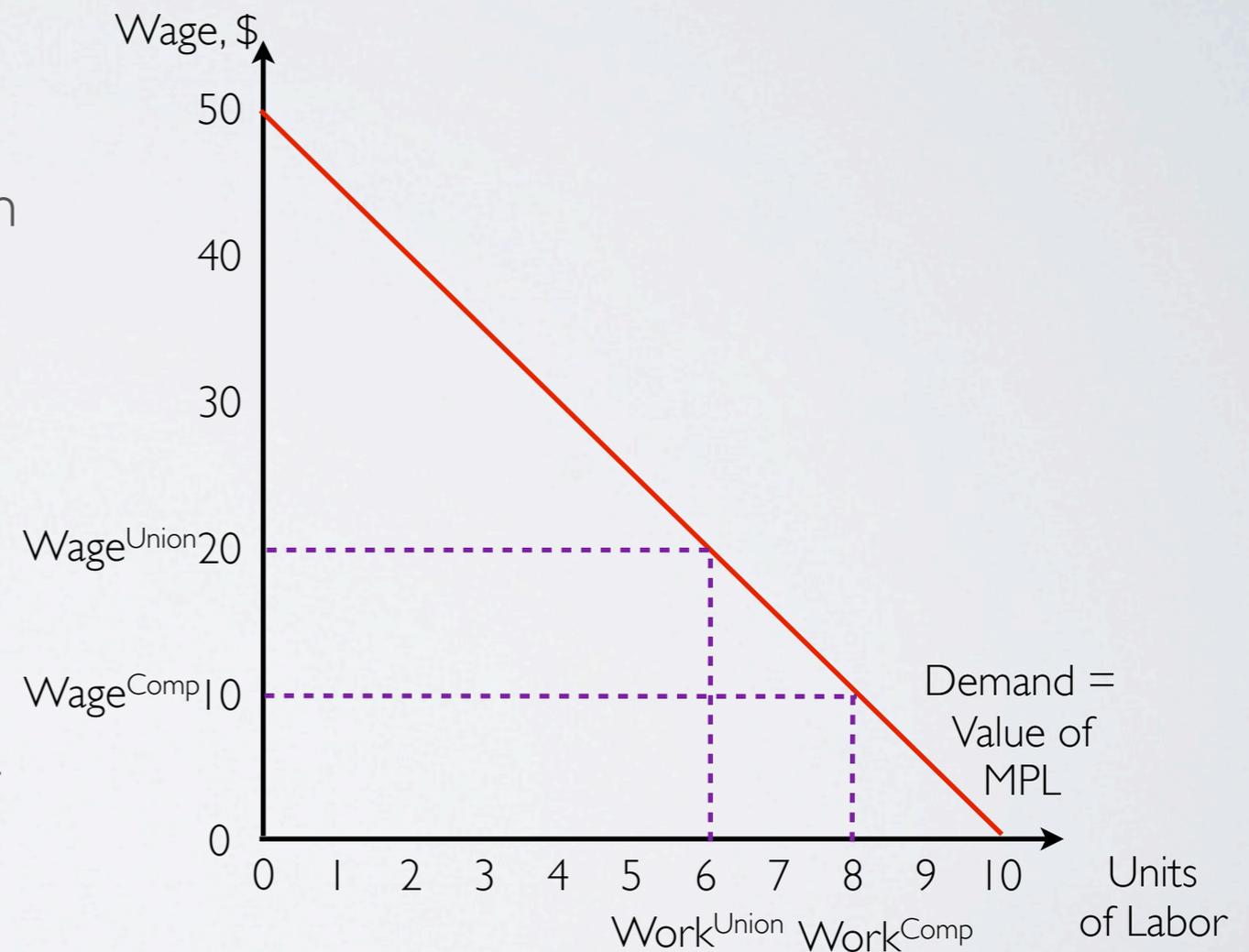
- Recall the figure of labor demand from “Don’s Lawns” when the price of mowing a lawn was \$2
- If the price of labor (wage) is \$10, then Don will demand 8 units worth of labor a day
- Let’s call \$10 the **competitive wage**, i.e. the wage determined by the market (although here we just assume it was determined by the market)



UNION WAGES

- Don is ruthless slavedriver, so his workers unite and form a union
- The union leverages its power (workers can strike) and negotiate a wage of \$20
- Now the firm will only demand 6 units worth of labor a day
- The original 8 workers, though, could agree to take off one out of every four days so each each day there are 6 units at the plant
- Now their average pay over 4 days is only $3/4 * \$20 = \15 , but they get a vacation day and keep their job!

Labor Demand



UNIONS: UNITED STATES

- Unions in the United States have not been as successful; book claims unions have been able to secure 10% to 20% wage increases
- In the late 1800s, early 1900s labor unionization hits snags like the Homestead strike (workers striked, company brought in scabs and Pinkertons, workers fought, eventually defeated when militia protected scabs)
- The 1935 National Labor Relations Act protected the right of workers in the private sector to organize and conduct collective bargaining
- Since then, union membership peaked at 35% of workers in the 1950s and 60s

UNION MEMBERSHIP

Figure 1: Changing Percentage of Non-Agricultural Workers Who Are Members of Unions, 1880-1995



Freeman (1997)

UNION DECLINE

- What factors have led to the decline of unions?
 - Falling labor share of blue collar workers to white collar workers (who typically do not organize)
 - Shift from manufacturing to services
 - Shift of remaining manufacturing jobs from union firms like GM and Ford to nonunion firms like Toyota
- Social pushback against public sector unions (e.g. Scott Walker in Wisconsin) with concern about ballooning budget problems



Protest against Governor Scott Walker's elimination of collective bargaining rights in a budget bill

UNION DECLINE

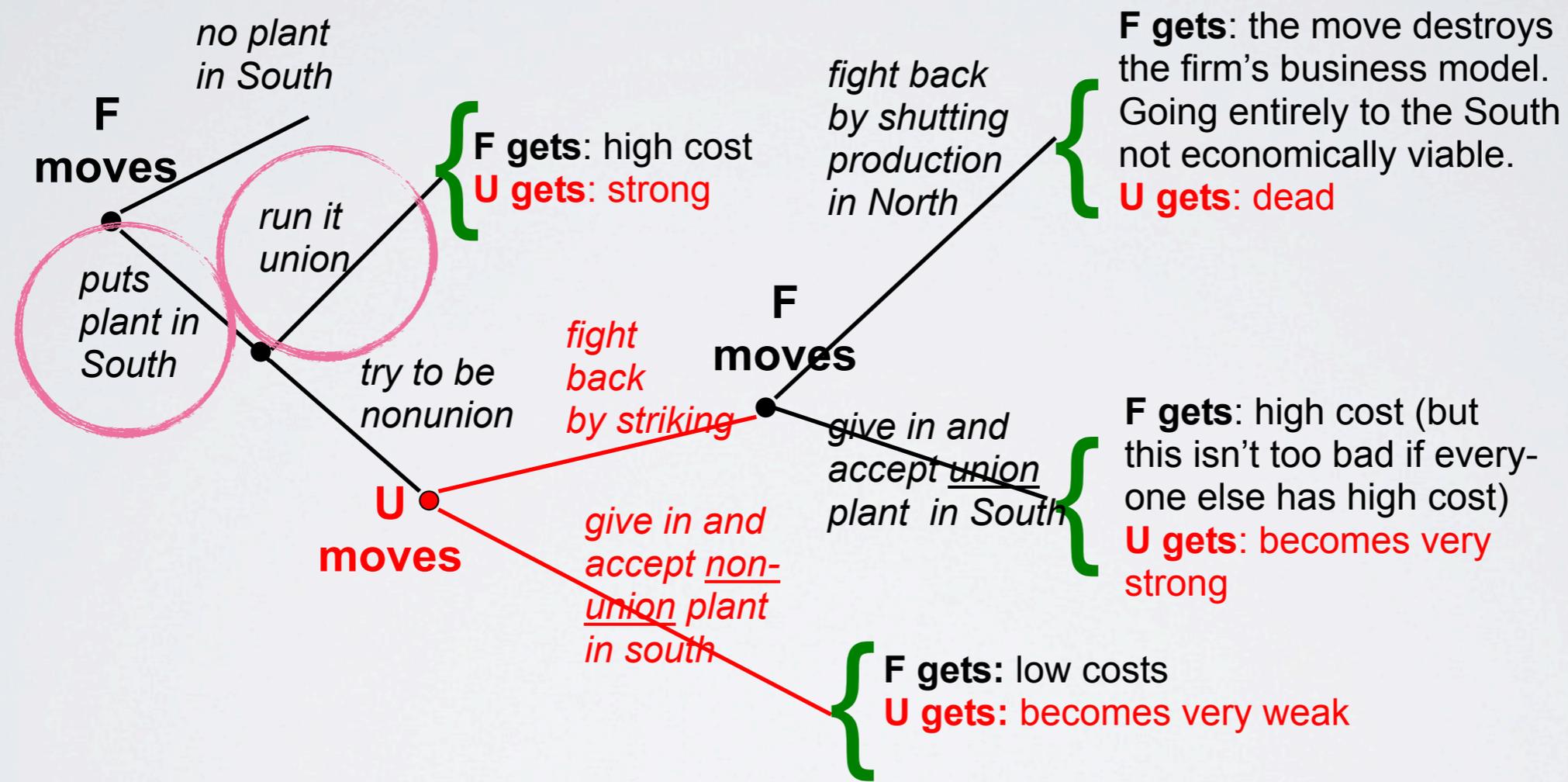
- In the 1960s
 - GM and Ford tried to open plants in the Southern US where unions are weaker
 - The United Auto Workers (UAW) forced GM and Ford to accept union workers in these plants...
- In 2009,
 - Boeing decided to open (in 2011) a nonunion plant in South Carolina but already had union plants in Washington State
 - But Boeing has threatened shut down plants in Washington if unions attempt to exert too much pressure

THE UNION GAME

- We can look at two sequential move games (so order of moves matters) to understand how the firms and unions interact
- Game 1: GM V. Unions in the 1960s
- Game 2: Boeing V. Unions in the 2010s
- We will assume each player is rational and anticipates how his opponent will respond
- Remember we solve these games backward

GM V. UNIONS IN THE 1960S

Game Tree for Auto Companies in 1960s



F is firm (initially with all production in North)
U is union (initially representing plants in North)



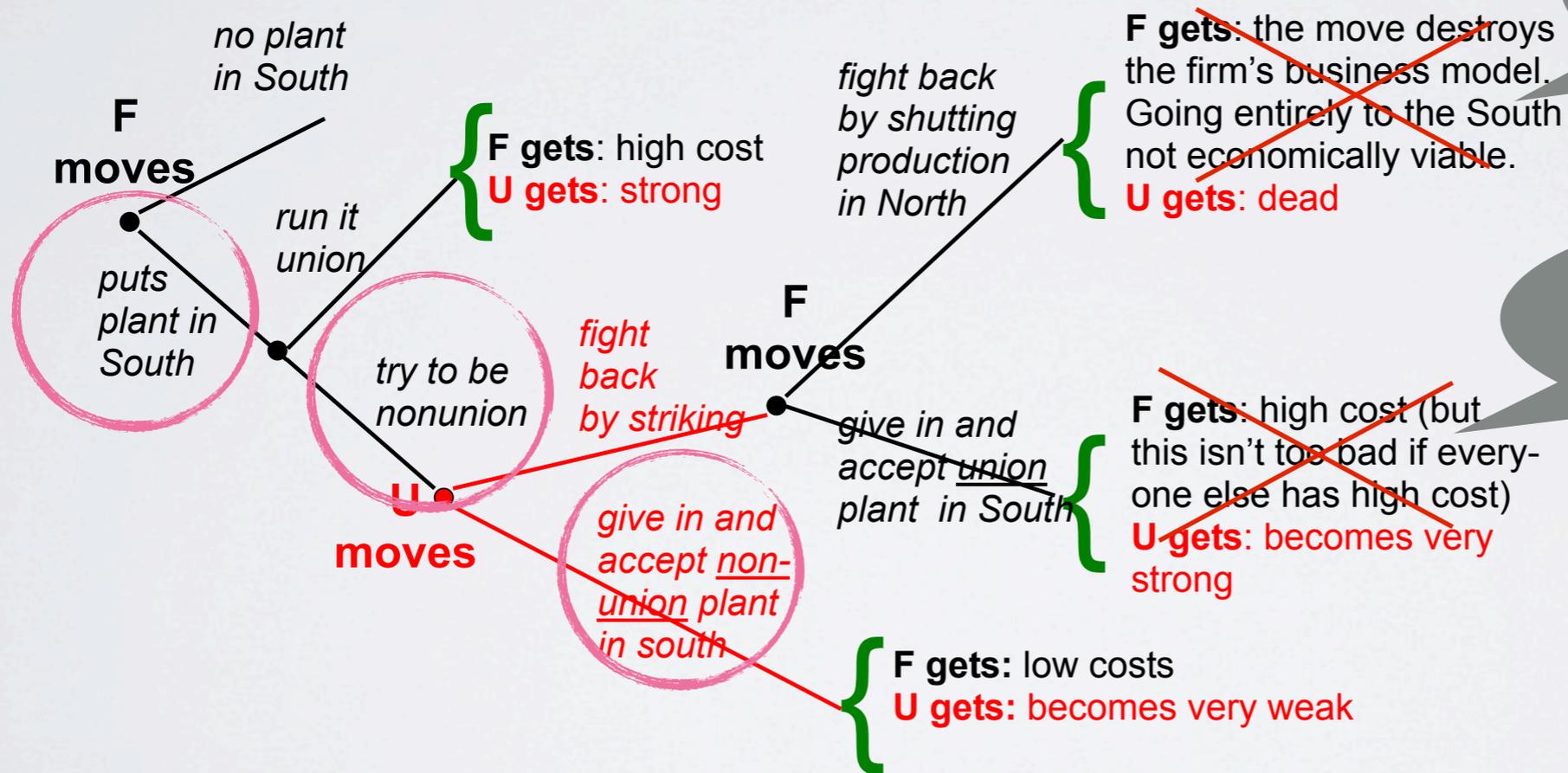
GM V. UNIONS IN THE 1960S

- So the equilibrium for the game is to open a plant in the South and run it union
- Explanation
 - Look at the firm's last move; obviously GM will not shut down production in the North, the firm would end
 - So the union knows if it fights back by striking, the firm will respond by giving in
 - In this case the union becomes strong, which is certainly better than the alternative of being weak if it accepts the non union plant
 - So the firm can then decide to run the firm as a union and not union, knowing how the union will respond in the latter case
 - If the firm decides to try to run the firm nonunion, its payoff will be a high cost AND the union will be even stronger than in the case when it immediately accepts the union in the South
 - So the best alternative for the firm is to open the plant in the South (we assume it will open the plant in the South) and accept union control immediately

BOEING V. UNIONS IN THE 2010S

First need to update payoffs to reflect the weaker position

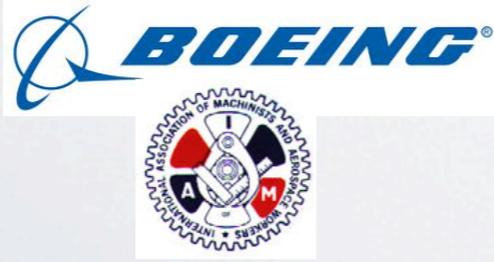
Changes in Game Tree for Boeing in 2010



Not optimal but the firm would survive

High cost is really bad because of competition

F is firm
U is union



BOEING V. UNIONS IN THE 2010S

- So the equilibrium for the game is to open a nonunion plant in the South and for the union to accept it
- Explanation
 - Problem for union is now that if the union fights back, Boeing might just shutter its plants in the North which is the worst case for the Union
 - So now if Boeing tries to open a nonunion plant in the South, the union will just give in since becoming weak is better than dying
 - When Boeing makes its decision to open up a nonunion or union plant in the South, it will know that it can open a nonunion plant and get low costs -- much better than the high costs and unions GM was forced to take in the 1960s

BOEING'S REAL EXPERIENCE

- Boeing decided to open up the nonunion plant, but in April 2011, the union convinced the National Labor Relations Board that moving the plant to the South was “unfair labor practice”
- Case was based on evidence that Boeing executives were moving a plant to the South *in retaliation* to strikes
- The labor board actually prevented the plant from opening
- Boeing needed the extra production facility so it ended up settling with the union by adding more production in Washington as a consolation