

Lecture 15(i) Announcements

- Q&A Sessions **this Wednesday**
 - 4-5:30 pm **Anderson 310**
 - 6:30-8:00pm **Anderson 210**
- Room locations at Final OneStop Page at bottom of Canvas (**Rooms same as for Midterm 2**)
- Deadline for registering for make-up is 4:00pm today (Monday)
- Office hours: 4-135 Hanson
 - Wed 1:30-4:00
- Vote on Platform policies at week 15 Canvas (and get 2 extra bonus points on HW11.)

Lecture

Finish Discrimination

Asymmetric Information

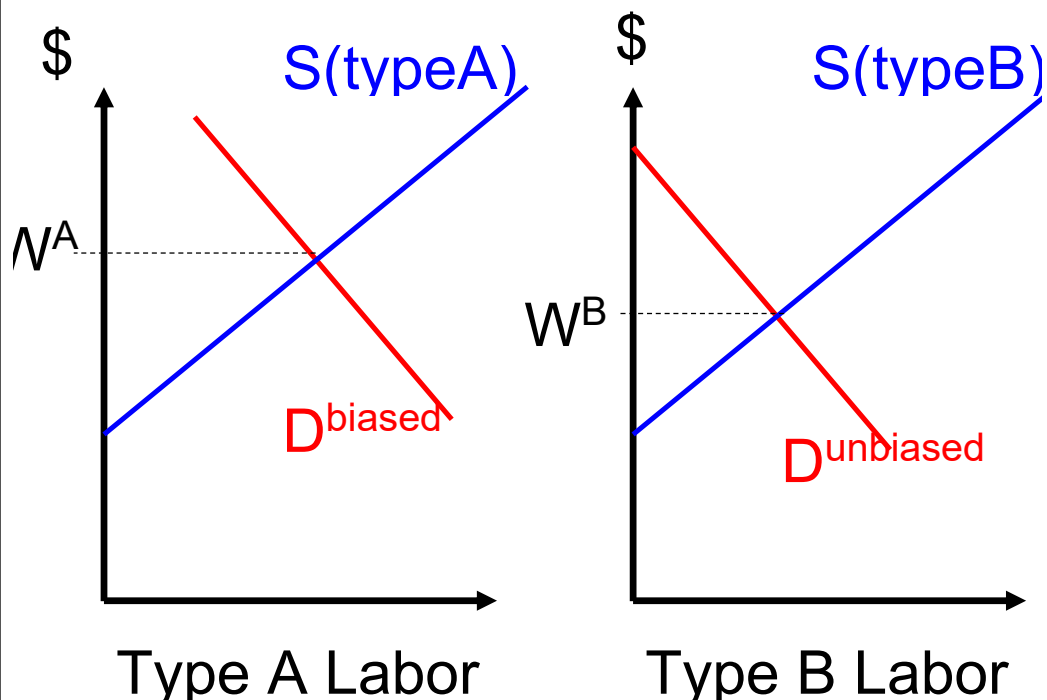
- Moral Hazard
- Adverse Selection
- Screening
- Signalling

Moral Hazard and the Banking Crisis
(Introduce the material. To be continued in Lec 15(ii))

Suppose there are two kinds of workers, type A and type B, and they have equal ability.

- Suppose there are two kinds of firms, biased and unbiased.
 - Biased firms refuse to hire type B
 - Unbiased firms don't care, will hire whichever type is cheapest.

So equilibrium in the labor market might look like this



We see that in equilibrium $W^B < W^A$.

How can this be? Biased firms know they can pay less for type B workers, but they refuse to hire them. The wage W^A is where the demand for type A workers by biased firm equals all of the supply.

Since $W^B < W^A$, unbiased firms won't hire any type A workers, since they are too expensive. (Or rather then say they won't hire type A workers, they will offer W^B to both kinds of workers. But only type B workers will accept these wages. So W^B is where the supply of type B workers equals the demand from unbiased firms.

Could we draw things differently and have an equilibrium where $W^B > W^A$?

Because.....

Bottom line: If some firms are biased, we can have an equilibrium where $W^B < W^A$.

But now think about the long run. Since biased firms pay higher wages for the same quality labor, biased firms will have higher average cost than unbiased firms. In the long run, low cost firms will tend to drive high cost firms out of the market.

We conclude: If discrimination is due to preferences by firms, we expect market forces to work towards driving the discrimination out of the market.

But what if firms don't care about the type of workers, but the firms' customers do? Suppose customers are biased and they don't like buying

from a firm that employs type B workers. Then these firms will be able to charge higher prices, and so they won't go out of business.

We conclude: If discrimination is due to preferences by consumers about the kind of workers that get hired, we **do not** expect market forces to work towards driving the discrimination out of the market.

Asymmetric Information

“Frontiers of Microeconomics”

Review: we started with

First Welfare theorem:

Assumed no externalities

no monopoly

Then free market efficient

Then we discussed what happens with:

externalities

(role for government)

market power

(potential role for government)

All the while we

All the while we ignored the issue of asymmetric information.

Market may not be efficient

But government might not have an answer either. (Government probably doesn't have any more information than private sector).

Its complicated!!

So that is why this topic is still called “Frontiers in Microeconomics” even though asymmetric information was being talked about when I took this class over 30 years ago!

So information is hidden....
.....but what is the info about?

1. Hidden Action
Moral Hazard
2. Hidden Characteristics
Adverse Selection

Illustrate with Insurance Industry:

Hidden Action:

People who are covered by an insurance policy can take actions to reduce the probability of an accident happening.

Extreme example:

Business has \$1,000,000 in coverage for a building worth \$500,000 (**overinsured**)

Might just accidentally leave gasoline around and light a lot of candles.....

Overinsurance can lead to a **hazard** for a person's **morals!**

so the name, **moral hazard**

Other examples in insurance.....

Examples in employer/employee relationship

What is the connection between moral hazard and externalities?

In an employee relationship, compare incentives when people are paid a flat salary versus commission?

If paid on a commission, worker bears more risk and has stronger incentives. (But this can cause other problems, workers have uneven pay, may not work well together as a team....)

Hidden Characteristic

Suppose buying home insurance and deciding whether to get coverage for water damage.

Homeowner may know more about likelihood of having the problem, than the insurance company (inside information).

The **selection** of people who purchase the water damage coverage will be **adverse** from the perspective of the insurance company.

If government passes a law that insurance companies cannot base price on a given characteristic, then it has the same impact as though hidden.

If new law makes it illegal to base insurance rates on pre-existing conditions, then we get **adverse selection**.

people with cancer: very interested in buying insurance.

healthy people: much less interested

In fact, there is such a law:

Affordable Health Care Act
(AKA Obamacare)

Combines:

Ban on basing rates on pre-existing conditions

With

Individual Mandate

Because can't have one without the other.

Some definitions tested in
Problem Set 11 on Aplia

Big idea: when have
adverse selection
or **hidden characteristics**
there will be incentives to separate
the good from the bad

(In insurance, there is an incentive to
separate the good risks from the bad
risks).

One side of the market: informed
Other side: uninformed

Screening: when uninformed does
something to try to separate out the
good.

(An insurer can offer a policy with a
very high deductible and make it very
cheap. Good risks will tend to buy
it.)

Signalling: when informed does something to **signal** he or she is a one of the good ones.

Example: real estate agent could be successful or not.

- Potential client may not be able to tell.
- Successful real estate agent gets Lexus or BMW



- Unsuccessful agent drives



- Potential client figures out who must be good.

Fancy car: a signal of success.

Moral Hazard in Banking and the Global Financial Crisis

We will discuss the role of moral hazard in

- Subprime mortgages in the United States
- Lending to countries in the Eurozone

This year: 10 year anniversary of the financial crisis.

To understand what happened, we need to take a look at a balance sheet of a bank.

Balance Sheet
First Bank of EconLand

Assets	
Loans (mortgages)	200

Liabilities&Equity	
Liabilities (deposits, short-term credit...)	170
Equity	30
Total Liabilities &Equity	200

Let's say the bank makes a mortgage loan of 200. Put that down as an asset of the bank. On the other side of the ledger, this money is coming from:

- Liabilities of the bank
- Equity in the bank (or capital)

Suppose

- Housing prices stable
- Borrower puts 20% down (50k down payment, out of a 250k house)
- Borrower has good job and can pay mortgage payments.

Bank is in good shape. The borrower should be able to pay.

- If the borrower has bad luck loses his or her job, and can't make the mortgage payment, the borrower can sell the 250k house and should clear at least 225k (after paying real estate agents 6% and other costs) to pay off the 200k mortgage.
- If borrower just walks away, the bank can foreclose on the home and recover the bank's investment.

That's not the reality of the housing market before the crisis.

Housing bubble: prices kept going up a lot faster than overall inflation and people acted as though this was going to happen forever.

Subprime Loan:

- Give a loan to someone for 200k with no down payment. (That is, to buy a 200k house).
- And maybe even no income.

Why do something crazy like that? If next year the borrower can't pay, no problem. House will be worth 250k. Bank can sell it and make a profit.

That logic broke down when the housing bubble burst. Instead of going up, home prices started going down.

Suppose house price goes down to 170k. Homeowner is “**under water.**” Better for homeowner to walk and let bank have the house.



Suppose for a moment that the bank can actually sell the house for 170k. How is that going to change the balance sheet of the bank?

Assets	
Loans (mortgages)	200
Liabilities&Equity	
Liabilities (deposits, short-term credit...)	170
Equity	30
Total Liabilities &Equity	200

What can we say now about the equity position of the bank?

Now, more realistically, take into account that the bank won't net \$170k from the repossessed home. Let say \$150k is all they can get. What can we say about the equity position of the bank now?

What happens next?

We haven't said anything about moral hazard yet.

In Lec 15(ii), we discuss how government policy helped create a moral hazard problem that contributed to the crisis.

Then turn to discuss the Euro-zone, and how having a monetary union, but not a fiscal union creates moral hazard.