

PPA 723

Information Asymmetries and coordination problems in markets

Recall that one condition for a perfectly competitive market is symmetric information.

What if this does not hold?

Quality uncertainty.

Informed demand versus uninformed demand. The case for a consumer protection agency:

The 'lemons market' problem.

Chapter 19, page 644.

First, contrast full symmetric knowledge. If we have a demand curve for lemons and a demand curve for good cars, and we can use information to separate the two markets:

1,000 cars sold for \$1000 each for lemons,

1000 cars sold for \$2,000 each for good cars.

If we know that half are good and half are lemons, and we can't tell the difference, the demand curve is D^* at \$1,500 per car.

If suppliers of good cars want at least \$1,750 per good car, none will be offered for sale at \$1,500.

The only cars for sale at a price per car of \$1,500 are lemons.

People figure this out, and the equilibrium is no good cars are sold, only lemons are sold, 1000 lemons are sold at \$1,000 each.

A related concept is that of an experience good. We only know the true value after we have paid the price, so our willingness to pay may be higher or lower when we have actually discovered what this thing is really like.

TV adds – must act now. Snuggie on TV. Upside down tomato plants. Cat nail trimmer.

Another variant:

Adverse selection – hidden information by one side of the transaction influences their desire to enter into an economic agreement.

Insurance markets are one place to consider.

People most likely to benefit from insurance are more likely to purchase insurance, those less likely to buy are less likely to benefit.

Premiums will be incorrectly set if based on the likelihood in the overall population.

Pre-existing conditions.

Mandate all buy insurance.

Moral hazard – the provision of the product makes more likely the use of the product.

When one party is insured by another party, the presence of insurance and the difficulty of monitoring behavior may lead the insured party to undertake actions that increases the likelihood they will use insurance.

Moral hazard occurs when the party to be insured can affect the probability or magnitude of the event that triggers payment.

FDIC and the savings and loans crisis.

Bailout of banks. ‘too big to fail’

Index based livestock insurance example.

Satellite images of greenness, calibrate mortality records to these.
Trigger payout based on satellite imagery.

Avoid moral hazard and monitoring in some domains (can’t manipulate signal, based on covariate shock that is remotely sensed, should not change behavior since based on covariate not idiosyncratic loss).

Could be prone to adverse selection, but limited exposure here as well.

Principal-agent problems. An agency relationship exists whenever there is an arrangement in which one party's welfare depends on what another person does.

The agent acts.

The principal is the party whom the action affects.

The problem is that the interests of the principal and those of the agent may not be the same.

The agent is the CEO, the principal is the stockholder.

The agent is the Senator, the principal is the citizen.

The agent is the person you paid to shovel, the principal is the homeowner.

The agent is the farmworker, the principal is the landowner.

The agent is the hired herder, the principal is the livestock owner.

Labor markets are another place we find information asymmetry to be an issue

Signaling on part of supplier of labor

Optimal contract design on part of demand for labor

Outcome is Score on a McPeak Exam in PPA 723:

	Bad Test Day	Good Test Day
Low Effort Study	10	15
High Effort Study	15	20

Can get into the details of how to solve this by contract design, but for the moment the nature of the problem is what we are after, and know that there are tools for designing contracts that deal with these problems.

A related issue is **the commitment problem**.

What is the commitment problem?

The firm promises to invest if people get education, they do, and the firm does not live up to its promise.

Why did Odysseus get tied to the mast and fill his sailors' ears with wax when he wanted to hear the song of the sirens?

What you commit to *ex ante* has to be credible *ex post*. Coordination problems when actions are based on an announced strategy that may not be the strategy implemented.

Temporal aspect makes coordination an issue.

Merchant guild case:

Greif et al contrasts a cartel explanation (the guild formed to create cartel returns for members) with a commitment explanation (the institution was needed to allow trade to happen at all).

The two players are:

Rulers (location specific and provide security to out of town traders).

Traders (come from out of town and allow trade which has benefits for both the traders and the rulers).

- A ruler of a city state can offer security to a visiting merchant. The ruler can protect the merchant from being robbed by the citizens of the city state at a cost of 1.
- The merchant has goods that cost him 1 to obtain elsewhere and transport to the city state if he decides to come. If they are sold in the city state, they earn revenue of 6, thus generating a profit of 5.
- The deal is that if the merchant comes with goods that generate a profit of 5 the ruler gets 2, the merchant keeps 3. The ruler thus nets 1 after paying the security cost [1 3 cell in the table]
- If the merchant does not come, no security costs are incurred; no goods are bought elsewhere to be sold in the city state, the ruler and the merchant get zero. [0 0 cell in the table]
- If the merchant comes and the ruler does not provide security, the ruler and his mob of citizens rob the stuff and sell it for profit of 6. The ruler keeps half (3), the mob keeps half (3). The merchant suffers a loss of -1. [3 -1 cell in the table]
- If the ruler pays for protection but the merchant does not come, the ruler pays the cost of protection, but gets no benefits, so suffers a loss of -1. [-1 0 cell in the table]

This can be summarized in the following table.

		Merchant			
		Come		Don't Come	
Ruler	Protect	1	3	-1	0
	Don't protect	3	-1	0	0

If the security of the trader is violated (the ruler allows all his stuff to be stolen and lets his people get away with it), what can the traders do?

Bilateral reputation – the trader who is attacked does not come back.

Multilateral reputation – the trader and his group does not come back.

Administrative bodies – no traders at all come back and any that do are detected and punished for doing so. An enforceable embargo.