Markets with asymmetric information

[efficiency and supply/demand]

Market demand for Apple

Q/per period

P

a

.50

D

1000

Q

Suppose market price is .50/apple.

What do we know about consumers’ willingness to pay for every one of the 1000 apples transacted in a given period?

What do we know about the marginal willingness to pay for apples beyond 1000 in a given period?

Are there consumers who value apples but who are nevertheless rationed out of the market?

Market Supply of Apples

P

S

a

.50

1000

Q/per period

At the market price of 50 cents, producers are will to supply 1000 apples per period.

What would be the reason for producers supplying a finite number of apples for a given price?

Market for Apples

P

S

a

.50

D

1000

Q/per period

500

Point “a” is considered market equilibrium. Why?

It is also considered a point representing an efficient allocation of resources. A point that maximizes society’s wellbeing in the use of the specific scarce resources. Why?

Why would Q=500 apples be considered an inefficient use of resources?

In standard supply/demand model consumers fully informed about goods purchased

Chooses basket that maximizes utility

Markets may misallocate goods/services if consumer/producer not fully informed

Market for lemons

1. consumers shopping for used car usually don’t fully know quality of individual car

2. base demand on perceived average quality

3. this may lead to market over-allocating low quality used cars, under-allocating high quality

**Scenario I: Perfect information**

Two types of used cars that consumers perfectly informed about:

High Quality

Low Quality

High

SH

DH

QH

50,000

PH

a

10,000

Low

SL

DL

QL

50,000

PL

b

5,000

SH, SL supplied by previous owners of cars

Upward sloping

SH is higher than SL because owners of high quality cars would ask for higher price to trade their car

Under full information

DL should be lower than DH

Consumer not as willing to pay high prices for low quality compared to high quality

Equilibria

50,000 high quality used cars transacted per time period at PH=$10,000

50,000 low quality used cars transacted per time period at PL=$5,000

**Scenario II: Uncertainty regarding quality**

Consumers not fully informed on quality of individual cars

Observes in market that half used cars high quality, half low quality

High

SH

DH

QH

50,000

PH

a

10,000

25,000

DM

DLM

a’

Low

SL

DL

QL

50,000

PL

b

5,000

DM

DLM

b’

75,000

Market demand with uncertainty will reflect consumer expectations of medium quality

DM – median demand for used cars

DM less than DH; greater than DL DL < DM < DH

High quality moves to a’; low quality moves to b’

Distribution of cars sold: 75,000 low quality

25,000 high quality

Uncertainty caused more low quality cars on market

The points a’, b’ are not equilibria; not stable points

1. Cars are indistinguishable to consumers but there are two different market prices

2. DM is based on 50% chance of getting high quality car

Consumer observe now ¾ cars are low quality

Adjust demand to reflect lower chance of acquiring high quality car

Decrease demand from DM to DLM

Further decreases quantity of high quality cars traded in market

At limit no high quality cars on market

Market breakdown

Although potential suppliers/demanders exist for high quality cars , uncertainty eliminates mutually beneficial transactions

“bad cars drive out good cars”

Comments:

1. Why isn’t problem as severe for new cars?

2. Strategies used car dealers employ to counter information problem

3. Examples:

A. Restaurants

B. Books

Adverse selection in insurance

Reflects lack of information suppliers have about demanders

High cost people more likely to buy insurance

In [insurance example](http://milesfinney.net/433/handout/adverse_selection.xlsx) under full information, insurance companies would know health status of each potential customer.

Insurance companies would charge premiums relative to anticipated costs.

Low cost customers pay lowest premium; high cost pay highest premium or possibly don’t get insured at all.

Under conditions where insurance company cannot distinguish between customers in terms of anticipated health costs, it would charge all one price. Adverse selection suggests the insurance will fall into a death spiral.

Within example, information asymmetry causes market inefficiency.