ASYMMETRY IN FINANCIAL MARKETS

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AKERLOF’S LEMON THEORY

Assumptions

- What buyers know is that with probability (q), a used car is a good car and with probability (1-q), a used car is a lemon

- Lemons and good cars must sell for the same price since type isn’t distinguishable by the buyer

- Demand for automobiles depends on price P and average quality of used cars traded μ → \( Q_d = D(p, \mu) \) st \( \mu = \mu \) and supply \( S = S(p) \)

Sellers know more than buyers in the used car market
HOW DOES THE LEMON MARKET BREAK DOWN?

• Since those with good used cars must sell their cars below a “fair” price, they don’t sell

• Additionally, sellers of lemon cars get more money than what their car is worth in the market

• Thus, there can be no trade

• How does this apply elsewhere? The insurance market
AKERLOF ON INSURANCE

As price level rises, those who purchase insurance are more certain they will need it.

Insurance premiums are higher for those 65 and over.

Medical insurance becomes the least available to those who need it most.

Adverse Selection and Moral Hazard are present in all insurance lines.
AKERLOF’S TAKEAWAYS

• Since there is uncertainty everywhere, trust is important in exchange.

• Akerlof also concluded his paper with another real life application of market asymmetry: the job market.
  
  • How do you know that a candidate will be a profit maximizer for your firm?
  
  What are the complications surrounding hiring?
Spence argues that it is in the employer’s interest to try to guess the applicant’s productivity.

**SPENCE’S SIGNALING MODEL**

The population is divided into two groups: those with low productivity and those with high productivity.

Asymmetry: the employer doesn’t know which group the applicant belongs to.

What can employers do? Take Signals.
Separating equilibriums occur when the cost of obtaining the signal is high enough such that only those who truthfully should have the signal can obtain it.
• Suppose attaining higher education is a signal of productiveness

• The crucial assumption is that signaling costs are negatively correlated with productive ability

• For this to hold true, higher productivity types incur lower costs of acquiring education (the signal) than those with lower productivity

• What are the issues with this?

• Is this disadvantageous to a certain group? What if it really isn’t a signal? What about resources available to obtain the signal?
APPLICATION TO FINANCIAL MARKETS

- Market information asymmetry appears in financial markets as exemplified in Paul Milgrom and Nancy Stokey’s paper entitled “Information, Trade, and Common Knowledge”

Suppose you come to me offering to sell me a stock for $100 a share. Why are you offering to sell it to me for $100? Maybe you’re selling stocks because you’re shifting into bonds, or ready to retire, or need to pay a sudden medical expense. But chances are, you think the stock is worth less than $100, and you’re trying to unload it. That should make me wary about taking you up on your offer. But on the other hand, if I jump at the offer, that should tell you that I have reason to believe the stock is worth more than $100 … and that should make you wary.
• Noah Smith’s piece entitled “The Dirty Little Secret of Finance: Asymmetric Information” said this very phenomenon of asymmetrical information, “leads us to believe that most people who buy and sell financial assets have no intrinsic desire for the asset itself -- they only care about how its value to other people will change in the future.”

• Information becomes the product

• Apart of information being the product is trust in your broker/salesperson
ASYMMETRICAL INFORMATION SHOWN BY BID/ASK SPREAD

- Definition: the difference between the highest price a buyer is willing to pay and the lowest price a seller is willing to sell it at

- Bid/ask spread can be affected by perceived risk and market liquidity, among other things

- Milgrom’s paper entitled, “Bid, Ask, and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders,” he postulates that the magnitude of the bid/ask spread reflects the information available to the market with someone having superior information
Milgrom proposes that, “if traders have the same prior beliefs and trading motives are purely speculative, then no trading should happen”

But this is obviously not the case since we have global markets.

Milgrom also states that bid/ask prices should straddle what the price would be if we had perfect information markets.

What about inside information? Or when markets don’t capture the true price in spreads?
This reflects the Herd Instinct which, “is a mentality that is distinguished by a lack of individual decision-making or introspection, causing people to think and behave in similar fashion to those around them”
CONCLUDING REMARKS

• Asymmetry makes making money in the market possible as all its participants don't know for certain what the future holds, as Milgrom pointed to.

• Markets are speculative.

• Trust becomes an agent to fight against uncertainty, as proposed originally by Akerlof and supported by Spence’s Model.
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