**Asymmetric Information - Discussion**

**Read:**

***Most Cars Traded Will Be Lemons*** on Brightspace.
***People Will Avoid Work if They Can*** on Brightspace.

**Task:** Read the articles individually. Then, come together as a group, decide on which role you will take on, and answer the questions below.

You and your group members will take on one of the following roles:

1. **Discussion Leader:** Responsible for facilitating the discussion and involving all group members

2. **Planner:** Responsible for pacing the discussion so that all parts of the task are completed in the time allowed

3. **Recorder / Reporter:** Responsible for recording the essence of group discussions and reporting them in subsequent large group meetings

4. **Economics Watchdog:** Responsible for ensuring that the discussion is based on sound economic concepts and reasoning

**Questions/Tasks:**

1. What does “asymmetric information” mean?

# MOST CARS TRADED WILL BE LEMONS

## MARKET UNCERTAINTY

### IN CONTEXT

FOCUS
**Markets and firms**

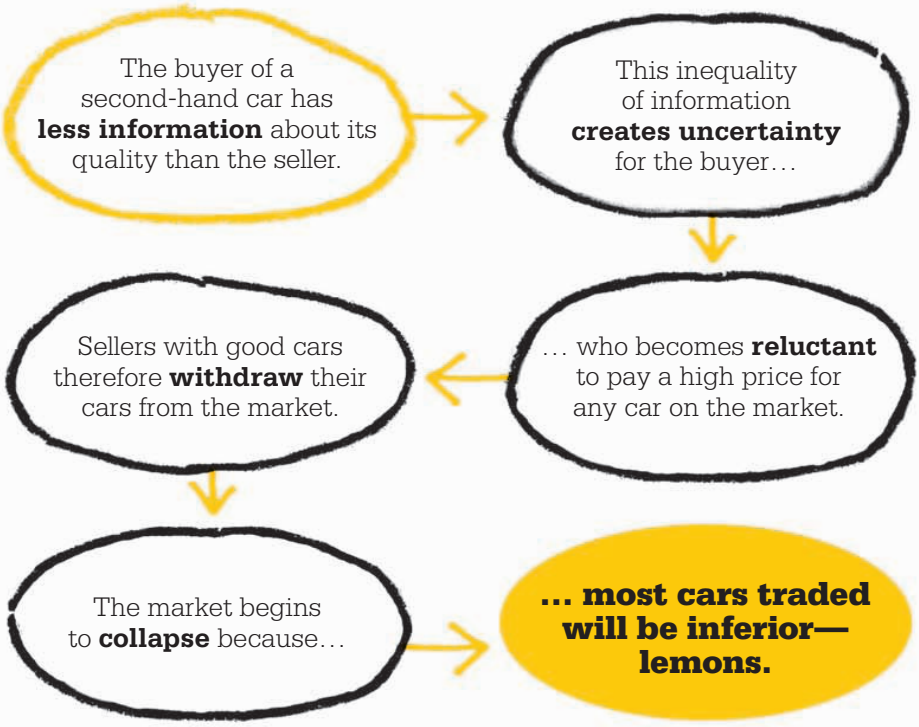
KEY THINKER
**George Akerlof** (1940–)

BEFORE
**1558** English financier Sir Thomas Gresham advises that "bad money drives out good."

**1944** John von Neumann and Oskar Morgenstern publish the first attempt to analyze strategic behavior in economic situations.

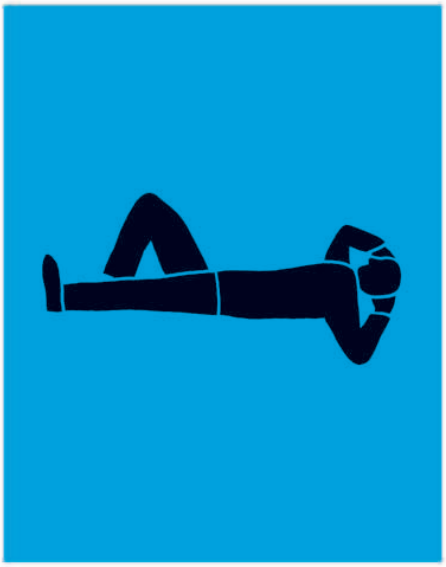
AFTER
**1973** US economist Michael Spence explains how people signal their skills to potential employers.

**1976** US economists Michael Rothschild and Joseph Stiglitz publish *Equilibrium in Competitive Insurance Markets*, a study of the problem of "cherry picking" when insurance companies compete for customers.




Until US economist George Akerlof started studying prices and markets in the 1960s, most economists believed that markets would allow everyone willing to sell goods at a certain price to make deals with anyone who wanted to buy goods at that price. Akerlof demonstrated that in many cases this is not true.

His key work, *The Market for Lemons* (1970), explains how uncertainty caused by limited information can cause markets to fail. Akerlof stated that buyers and sellers have different amounts of information, and these differences, or asymmetries, can have disastrous consequences for the workings of markets.



# PEOPLE WILL AVOID WORK IF THEY CAN

## MARKET INFORMATION AND INCENTIVES

### IN CONTEXT

FOCUS
**Decision making**

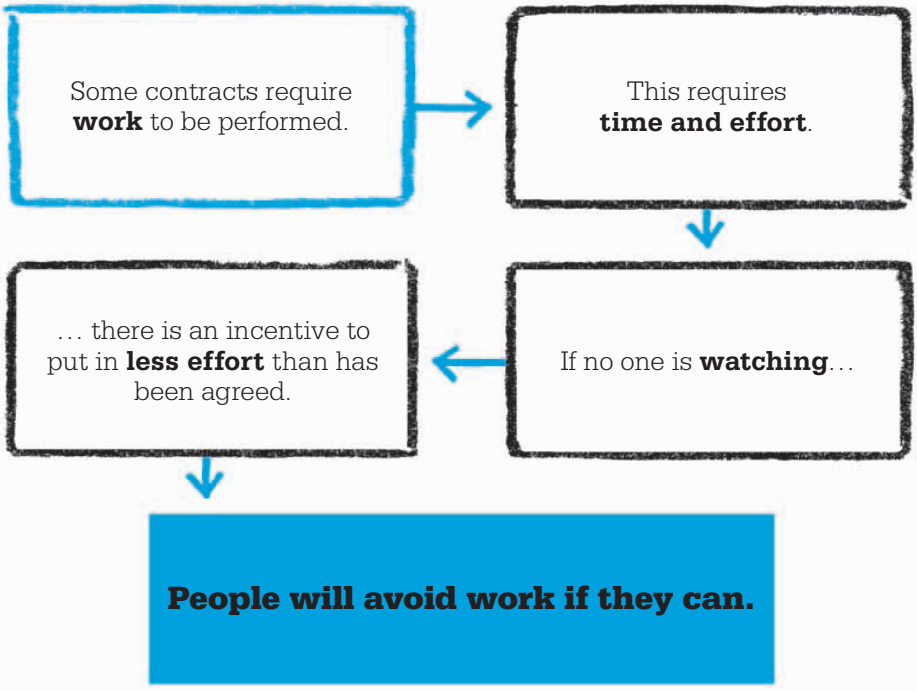
KEY THINKER
**Kenneth Arrow** (1921–)

BEFORE
**From 1600** "Moral hazard" is used to describe situations where individuals may not be honest.

**1920s–30s** US economist Frank Knight and British economist John Maynard Keynes grapple with the problem of uncertainty in economics.

AFTER
**1970** US economist George Akerlof publishes *The Market for Lemons*, looking at the problem of limited information about a good's quality.

**2009** Mervyn King, governor of the Bank of England, describes government bailouts of the banking system as "the biggest moral hazard in history."




The standard model of economic behavior, first set out by Adam Smith (p.61) in the 18th century, assumes that all the participants in markets are rational and well-informed. However, this is not always the case.

US economist Kenneth Arrow was among the first to analyze the problem of less-than-complete information in markets. He pointed out that, while two sides can agree to write a contract, there is no guarantee that either will fulfill it. Where one party cannot observe the behavior of the other, there may be an incentive for the less-observed party not to deliver on all clauses of the contract, unknown to the other. There is an imbalance of information because actions are hidden.

**See also:** Provision of public goods and services 46–47 ▪ Economic man 52–53 ▪ Markets and social outcomes 210–13 ▪ Game theory 234–41 ▪ Market uncertainty 274–75 ▪ Incentives and wages 302

**Travel insurance** may encourage vacationers to try out more hazardous activities. As a result insurance firms raise the price of coverage.

## Moral hazard

This situation is known as "moral hazard." In the insurance market, for instance, an insurance policy may act as an incentive for the person insured to take more risks because he or she knows that the insurer will cover the cost of any damages. The result is that insurers offer less insurance coverage, since they are fearful of encouraging excessive risk-taking and ultimately bearing excessive costs. This means there will be a market failure: those obtaining insurance will pay too much, and many people could find themselves excluded from the insurance market altogether. Arrow suggested that, in these circumstances, there is a case for government intervention to correct the market failure.

Moral hazard can emerge in any situation where one person (the "principal") is trying to get another (the "agent") to behave in a certain way. If the behavior desired by the principal takes effort by the agent, and if the principal cannot observe the agent's actions, the agent has motive and opportunity to avoid work. Insurance contracts are between firms and their customers, but the problem can emerge even within one firm: employees may shirk their duties when an employer isn't watching over them. These principal–agent problems often come about with long-term contracts for complex tasks. In such circumstances every requirement cannot be stipulated in advance, and moral hazard can emerge in unforeseen ways. Principal–agent problems have led to the development of a large literature on the management of complex tasks, dealing with the best way to word the contracts.

## Too big to fail?

Moral hazard has more recently become a critical issue in political arguments following the 2008 financial crisis. When banks are described as "too big to fail," a version of moral hazard may be at work. Major banks know their failure could cause a recession, so they may believe that they will be supported by governments no matter what. Economists have suggested that this leads banks to take on excessively risky investments. The euro crisis of 2012 is also thought to be an example of moral hazard at play: countries such as Greece were suspected of having run economies on the grounds that the country was "too big to fail." ■

## Kenneth Arrow

A native New Yorker, American Kenneth Arrow was born in 1921. He was educated entirely in New York, graduating in social science from City College before going on to receive an MA in mathematics from Columbia University. He switched to economics, but after the outbreak of World War II he was sent to join the US Army Air Corps as a weather officer, researching the use of wind.

After the war Arrow married Selma Schweitzer, with whom he had two sons. He began lecturing at Columbia in 1948, then had professorships in economics at Stanford and Harvard. In 1979 he returned to Stanford, until his retirement in 1991. He is best known for his work on general equilibrium and social choice, and won the Nobel Prize in 1972 for his pioneering contributions to economics.

### Key works

**1951** *Social Choice and Individual Values*
**1971** *Essays in the Theory of Risk-bearing*
**1971** *General Competitive Analysis* (with Frank Hahn)

**See also:** Free market economics 54–61 ▪ Market information and incentives 208–09 ▪ Markets and social outcomes 210–13 ▪ Signaling and screening 281

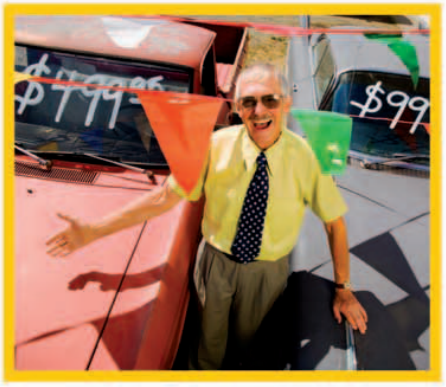
## Asymmetric information

The buyer of a second-hand car has less information about its quality than the seller who already owns the car. The seller will have been able to assess whether the car is worse than an average similar car—whether, it is a "lemon"—an item with defects. Any buyer that ends up with a lemon feels cheated. The existence of undetectable lemons in the market creates uncertainty in the mind of the buyer, which extends to concerns about the quality of all the second-hand cars on sale. This uncertainty causes the buyer to drop the price he is willing to offer for any car, and as a consequence prices drop across the market.

Akerlof's theory is a modern version of an idea first suggested by English financier Sir Thomas Gresham (1519–79). Gresham observed that when coins of higher and lower silver content were both in circulation, people would try to hold on to those of a higher silver content, meaning that "bad money drives good money out of circulation." In the same way sellers with better-than-average cars to sell will withdraw them from the market, because it is impossible for them to get a fair price from a buyer who is unable to tell whether that car is a lemon or not. This means that "most cars traded will be lemons." In theory this could lead to such low prices that the market would collapse, and trade would not occur at any price, even if there are traders willing to buy and sell.

## Adverse selection

Another market in which lemons affect trade is the insurance market. In medical insurance, for instance, the buyers of policies know more about the state of their health than the sellers. So insurers often find themselves doing business with people they would rather avoid: the least healthy people. As insurance premiums rise for older age groups, a greater proportion of "lemons" buy policies, but firms are still unable to identify them accurately. This is known as "adverse selection," and the potential for adverse selection means that insurance companies end up with, on average, much greater risks than are covered by the premiums. This has resulted in the withdrawal of medical insurance policies for people over a certain age in some areas. ■




**A car dealer** can reduce a buyer's risk when selling a car by offering guarantees. In many cases markets adjust to account for asymmetric information.

## George Akerlof

Born in Connecticut in 1940, George Akerlof grew up in an academic family. At school he became interested in the social sciences, including history and economics. His father's irregular employment patterns fostered his interest in Keynesian economics. Akerlof went on to study for an economics degree at Yale, then gained a PhD from MIT (Massachusetts Institute of Technology) in 1966. Shortly after joining Berkeley as an associate professor, Akerlof spent a year in India, where he explored the problems of unemployment. In 1978, he taught at the London School of Economics before returning to Berkeley as professor. He was awarded the Nobel Prize for Economics in 2001, alongside Michael Spence and Joseph Stiglitz.

### Key works

**1970** *The Market for Lemons*
**1988** *Fairness and Unemployment* (with Janet Yellen)
**2009** *Animal Spirits: How Human Psychology Drives the Economy* (with Robert J. Shiller)

2. How does the market for “lemons” relate to asymmetric information?
3. How does asymmetric information lead to market failure?

4. What is “adverse selection” mean?

5. Give an example of adverse selection leading to market failure.

6. One solution to the problem of asymmetric information is “signalling.” Signalling takes place when the party with more information can provide reliable information to the party with less information. How might signalling apply to the used car market?

7. What is “moral hazard?”

8. What are some examples of market failures caused by “moral hazard?”

9. What are some ways to prevent moral hazard?

10. What’s the difference between adverse selection and moral hazard? (if you are having trouble with this, the answer is on page 157 of the Course Companion).

# Asymmetrical Information

**1. What does “asymmetric information” mean?**

Asymmetric information, also known as "information failure," occurs when one party to an economic transaction possesses greater material knowledge than the other party.

**2. How does the market for “lemons” relate to asymmetric information?**

A buyer of a second hand car has less information about it than the seller. The seller can assess whether it’s a “lemon”, an item with defects. The uncertainty of “lemons” in the market causes the buyer to decrease the price he is willing to pay.

**3. How does asymmetric information lead to market failure?**

This uncertainty will drive prices down across the whole market and such low prices will cause the market to collapse and no trade will occur at any price.

**4. What does “adverse selection” mean?**

Due to asymmetric information, when consumers know more than the producers, there will be a selection of who to provide a good/service to, or there will be a price raise since consumers who need the good/service to will use it more (ie. less healthy people and health insurance)

**5. Give an example of adverse selection leading to market failure.**

Insurance companies are worried about “lemons” in their clients who know more about their driving/health etc. Insurance companies will select consumers to provide service to and drive prices high to combat “lemons”. This will cause a large underconsumption thus leading to market failure.

**6. One solution to the problem of asymmetric information is “signaling.” Signaling takes place when the party with more information can provide reliable information to the party with less information. How might signaling apply to the used car market?**

Car sellers tell buyers the condition of each car (how long it has been used, any defects/crashes, etc.) so that buyers will have the same information as the ~~buyers~~ sellers. (or more than before) govt intervene to enforce 5

**7. What is “moral hazard?”**

A moral hazard is a situation when one person is trying to get another person to behave in a certain way. If the first person cannot observe the second person's work and the work of the second person needs to put in effort to work, they will simply avoid work. Avoid work if not watched. Will hold higher risk because consequences bearer by another party.

**8. What are some examples of market failures caused by “moral hazard?”**

- Insurance
- 2008 since banks took more riskier loans because govt backed it.

**9. What are some ways to prevent moral hazard?**

- Progressive Policies: Risk-adjusted insurance premiums for examples & Incentives to avoid moral hazard.
- ~~Education~~
- ~~Greater transparency~~
- ~~Regulations (ban lying)~~ - for adverse selection.

**10. What's the difference between adverse selection and moral hazard? (if you are having trouble with this, the answer is on page 157 of the Course Companion).**

In the case of adverse selection, the market failure occurs before an economic transaction has been made. One party has more information than the other, and this gives the party an advantage going into the transaction. In the case of moral hazard, the market failure occurs after the economic transaction has been made. The party with greater knowledge of the risk has the advantage following the transaction.