Worksheet 6.3

Wall Street, Used Cars and the Market Failure of Asymmetric Information

What do Wall Street investment bankers and used car salesmen have in common? Sometimes, the less their customers know about the products they're selling, the more profits they both stand to earn. Imperfect information in markets can lead to market failure, and at its core, the failures of global financial markets during 2008 - 2009 was a result of *imperfect information.*

In 2011 the film ‘Inside Job’ won the Academy Award for Best Documentary. The film focuses on the changes in the financial industry in between 2000 and 2007 that led to an overall increase in the level of risk undertaken by home mortgage lenders, investment banks, and ultimately the broader investment community the banking system serves.

The misaligned incentives motivating Wall Street banks and the asymmetry of information between the buyers and sellers of financial products, as well as the creation of new, complex derivative markets that allowed investment banks to bet against the very assets they were assembling and selling off to investors, contributed to the collapse of credit markets in 2007 and 2008 and ultimately a contraction of the level of economic activity worldwide during the ‘Great Recession’ of 2008 and 2009.

Below is an attempt to introduce the seemingly incomprehensible nature of global financial markets and understand what occurred in them between 2000 and 2007 in the context of an introductory Economics unit on Market Failure.

Part 1: Imperfect Information as a Market Failure

Imagine this. You're in the market for a used car. You go to the used car dealership, speak with a salesman, and he takes you through rows of automobiles, telling you the features of each one and assuring you that each of his cars has been inspected by a third party garage for reliability. You find this reassuring; after all you wouldn't want to buy a car that hasn't passed a basic inspection, since you don't want it to break down once you've driven it off the lot.

After an hour or so of poking around the lot, you pick out the perfect car. A silver 2006 Audi, a great year for Audis, says the dealer. You have his word that it has been closely inspected and is in top notch shape. So you hand over $20,000 for the Audi and drive it off the lot, satisfied with your purchase.

What would you say, however, if you knew that soon after driving off the lot, the very salesman who convinced you to buy that Audi purchased an insurance policy that would pay the salesman $20,000 in the case that it broke down. Would that knowledge have made you question your purchase?

What would you say if you found out that the ‘third party garage’ the salesman used to inspect the car actually followed orders from the dealer himself, and was 100% dependent on that dealer's business.

Therefore, the mechanic was under significant pressure to give each of the cars sent to him a high mark in its inspection. By doing so, the garage mechanic assures that the dealer is able to easily sell cars to the buyers who trust that the mechanic has given an honest appraisal of the car's mechanical reliability. Since the dealer can sell cars given high inspection marks for higher prices, the dealer is then able take out insurance policies that pay a greater amount when the car ultimately breaks down.

Would all of this knowledge have made you question your purchase and the price you paid for your Audi? Chances are, if there had been ***perfect information*** in the market for used cars, you, and countless other people, would not have been willing to pay the price you paid for your Audi. Fewer used cars would have been sold, and they would have sold for lower prices. The existence of *asymmetric information* results in an over-allocation of resources towards the market for mechanically unsound used cars.

So what does the story above have to do with the global financial crisis? Believe it or not, the fundamental cause of the near collapse of the global financial system in recent years is almost identical to our story about the used-car salesman, the corrupt garage mechanic, the dubious insurance policies and the sucker buyer, who was stuck driving a crappy car that broke down within days of driving it off the lot.

Part 2: Financial Market Failure

Between 2000 and 2007, financial innovation led to unprecedented increases in the availability of low interest loans to millions of low income American households for whom home mortgages traditionally would have been unobtainable. Banks which issued these ‘sub-prime’ loans to households with very poor credit were able to sell them to Wall Street investment banks, which were repackaging individual home mortgages with thousands of similar loans from all over the United States into *asset-backed securities*, a form of bond that could then be sold to an investor to whom the interest payments made by the homeowners would accrue over the lifespans of the mortgages included in the bond.

Investment banks turned to the big credit rating agencies (Standard and Poors, Moody's), who inspected the make-up of these asset backed securities, declared them *investment grade* and gave them AAA ratings, essentially giving a thumbs up to the institutional investors who ultimately bought these bonds from the investment banks. An AAA rating assured investors who bought the bonds that they were very safe investments, in essence that they were in ‘good mechanical order’, just like the Audi you drove off the lot after being told it was in good mechanical order.

The investors who ultimately bought these bonds were not small time investors like you and me, rather they were *institutions,* such as state pension funds, hedge funds, money market funds, sovereign wealth funds, and so on, who often times used taxpayers money to buy bonds from big investment banks on Wall Street (such as Morgan Stanley, Goldman Sachs and Bear Stearns). These investors were assured by the banks that the bonds were of the highest quality and would therefore earn the investors interest payments for years, even decades. In addition, because of the high ratings given to these bonds by the rating agencies, the investors believed they would always be able to sell the bond if they needed the money back they had originally used to buy it.

The information given to investors was not always correct, however, it turned out that many of Wall Street banks assembling and selling these bonds were also *betting against them* in a parallel market for derivatives known as *credit default swaps.*

Here's the catch... the Wall Street banks that bought millions of low-income Americans' mortgages (the 'sub-prime' type) were just like that used car salesman. They knew the bonds of their creation were of poor quality, but just had to get the investors to believe they were in good mechanical order to 'get them off the lot' into the hands of an investor.

And just like the sleazy car salesman, as soon as the banks started selling these bonds to investors, they began taking out insurance policies against them in the case that they should lose their value. An insurance policy that pays out when the value of a bond collapses is called a 'credit default swap' (CDS), and the market for these became a multi-billion dollar industry in which big Wall Street banks bought insurance on the very bonds they created and sold to institutional investors, essentially betting that their own bonds would collapse in value. Of course, none of the investors knew the banks were betting against their own bonds, because this knowledge would have surely wiped out demand for them and led to collapse in business for the Wall Street banks.

The rating agencies inspecting the asset backed securities assembled from bad mortgages were just like the corrupt garage mechanic giving all the 2006 Audis a 'thumbs up' to make them easier for the car dealership to sell. By giving sub-prime mortgage backed securities 'investment grade' AAA ratings, the rating agencies made it easier for investment banks to sell them to sucker investors for high prices, which in turn enabled investment banks to take out insurance policies (CDSs) against them. And since the rating agencies knew the banks wanted AAA ratings for bonds that should have been given 'junk bond' status, the agencies continued to give them the highest rating, since they were dependent on the Wall Street banks for their business.

In the end, just like the 2006 Audi you drove off the lot was of poor mechanical integrity and broke down just days after you dropped $20,000 on it, most of the bonds assembled and sold on to investors by Wall Street banks were themselves of very poor quality. The underlying assets, the sub-prime mortgages themselves, were made to American households who could not possibly pay them back, Americans whose incomes were so low that the monthly payment for the home loan often exceeded the income of the borrower himself.

Ultimately, when sub-prime mortgage borrowers began defaulting on their loans, the Wall Street investment banks that had assembled them into asset backed securities and the institutional investors who bought these bonds found themselves holding trillions of dollars worth of loans that were no longer being repaid. For the banks, however, things weren't all that bad, because just like the corrupt car salesman, they had taken out hundreds of billions of dollars in insurance on the bonds, which assured that when they finally went bad, the banks, which had passed on most of the bonds to investors, could simply collect the insurance payouts from the issuers of credit default swaps.

Who were the insurance companies stupid enough to insure crappy bonds, you ask? You may have heard of AIG (American Insurance Group). This was the insurance company insuring most of the sub-prime mortgage backed bonds. When all the bonds started to go bad AIG quickly ran out of money as it paid the investment banks out the insurance they owed. When AIG ran out of cash, the US government stepped in and gave AIG $85 billion of taxpayer money in September of 2008, assuring that the Wall Street banks with insurance through AIG collected 100% of their insurance money.

Part 3: Show Me the Market Failure

So what makes this a 'market failure' in the economic sense of the term? Well, the existence of *imperfect information* in the automobile market led to an over-allocation of resources towards the market for used cars. Because the buyers were being duped by the sellers and the corrupt garage mechanics, demand for used cars was *too high* and the price they were being sold for was *too high.* With more perfect information, consumers would have demanded fewer cars and they would have been sold for a lower price.

With more perfect information in the financial markets, far fewer investors would have been willing to pay the prices they did for the bonds the Wall Street banks assembled from sub-prime mortgages. Far less credit would have been made available to low income American home buyers. Far fewer sub-prime mortgage loans would have been made, and fewer Americans would have purchased homes that they could not afford in the first place.

In addition, if the institutional investors who were ultimately stuck holding these bonds had known that the investment banks selling them were simultaneously buying insurance policies against them, the investors would have been much more wary about investing in them. Also, if the investors had known that the rating agencies giving the bonds AAA, investment grade ratings were essentially *following orders* from the investment banks, giving the bonds the high ratings the Wall Street bosses wanted them to get, then the investors would have been less willing to buy the bonds and less credit would have ended up in the hands of low-income American home buyers.

The market for financial services failed because *too many resources were allocated towards the provision of loans to low-income American households.* With more ***perfect information*** about the value of the underlying assets included in the bonds being sold by Wall Street banks (the sub-prime mortgages), and with the knowledge that the banks themselves were betting against the bonds they assembled and sold, far fewer investors would have been willing to buy the bonds and far less credit would have been made available to American home buyers.

A market failure exists anytime the free market produces at a level of output greater or lesser than that which is deemed socially optimal. Given the huge surplus of unsold homes in the United States right now, and the collapse of many institutional investors' portfolios on whose financial strength hundreds of millions of real people around the world depend for their very livelihoods, it can be safely argued that the ***imperfect information*** in the market for mortgage-backed securities (bonds) led to an over allocation of resources towards homes for low income Americans.

Questions:

1. Why is perfect information needed for a market to be perfectly efficient? How does *imperfect information* lead to a misallocation of resources in a market?
2. In the case of financial markets, what information, if known by those who invested in sub-prime mortgage-backed securities, would have helped correct the market failure and prevented the global financial crisis?
3. Another type of market failure we study in Microeconomics is *negative externalities*. Did the over-allocation of resources towards home loans for low income households create any *negative externalities* when the assets backed by the loans ultimately lost their value? What are some of the social costs of too many loans being made to low income borrowers in the early 2000's?
4. Some argue that the financial crisis was not a market failure, but a regulatory failure, meaning the government failed to notice the actions of Wall Street banks and stop them before they caused a financial crisis? To what extent should the government intervene in the functioning of free markets to assure that information asymmetry does not lead to similar crises in the future?
5. Suggest one regulation the government could have enacted to prevent the over-allocation of capital towards the sub-prime mortgage market?