TEACHING ECONOMICS:

A PARTICIPATORY APPROACH FOR ADULT LEARNERS

With Emphasis on the Recession and Financial Crisis

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TABLE OF CONTENTS

Introduction: Teaching Economics 4

I. The Market Economy and How It Works: A Game 6
- a. Materials Needed 6
- b. Preparation 6
- c. Presentation: An Introduction to Economies 7
- d. The Potato Chip Economy Game 10
  - i. Instructions 10
  - ii. Script 10
  - iii. Questions for Discussion 13
  - iv. Discussion 13
- e. Commonly asked questions about command economies 14
- f. Commonly asked questions about worker cooperatives 15

II. The Financial Crisis: A Role Play 16
- a. Materials Needed 16
- b. Preparation 17
- c. Role Play Script 18
- d. Questions for Discussion 28
- e. Discussion 28
- f. Conclusion 33
- g. Information for Trainers 33

II. The Recession: A Discussion 36
- a. Materials Needed 36
- b. Preparation 36
- c. Script 37
- d. Questions for Discussion 41
- e. Discussion 41
- f. Optional Section 41
- g. Optional Questions for Discussion 41
- h. Additional Talking Points on the American Recovery and Reinvestment Act (Stimulus Bill) 43

INTRODUCTION: TEACHING ECONOMICS

This booklet is for teaching economics to adult learners, especially non-traditional learners who may not have attended college. Adults are curious about economics and know that it affects them every day. They know when the economy is doing poorly, since they feel this in their pocket.

The teaching methods are participatory, asking questions, having debates, sharing experiences, and involving the audience in role plays. In teaching adults I find that involving them in such participatory methods is more useful than standing in front of a power point projector and lecturing. These adults need to *see* how the economy works before they can truly understand it. Before they understand macroeconomic issues, they need to watch how money changes hands, businesses become profitable, jobs are created, and people become employed, and how tightening credit or the money supply reduces business and creates unemployment and job losses.

The teaching methods draw from the audience's own experiences to discuss how the economy works and various policy options. Rather than stating which policies should be followed, the teaching methods encourage participants to think about the policies they believe in by discussing the debates about each and what legislation was passed. The adults in your audience will have a keen sense of which policies they think should be followed. I always challenge them about whatever they are thinking, bringing up the criticisms of the various policies they support, no matter what these may be. In this way they are forced to engage in economic debate and substantiate their beliefs—or change them.

This material can be adapted for high school students, as many of the same issues can be taught to this audience using the role plays in this booklet. But because high school students may not have experienced or have an understanding of many of the issues discussed—unemployment, mortgages, foreclosures—additional explanations are needed in defining terms such as mortgages and foreclosures and how these affect people's lives, businesses and their communities.

This booklet is organized in the following way. For each segment it presents an overview of the issue, a script for the economic issue discussed, discussion questions for the audience, and guidance to the instructor for these discussions. The scripts have numerous questions embedded in them to ask the audience, in order to foster participation, with the answers immediately following. The power point slides for each segment are available from the author upon request, at her website at www.umb.edu/academics/cla/dept/economics/faculty/kim.html or from the Labor Resource Center's website, www.cpcs.umb.edu/lrc/EconandYouSP09.htm.

This booklet includes participatory activities that explore the following topics:

- The market economy, how it works and alternative economic systems (includes a script, illustrations, and discussion questions),

- The financial crisis, its causes, the debate about solutions and the Bush and Obama administrations' responses (includes an illustration and discussion questions), and

- The recession, its causes, possible solutions, and the Obama administration's responses (includes discussion questions).

I. THE MARKET ECONOMY AND HOW IT WORKS: A GAME

A market is the bringing together of buyers and sellers. This section illustrates how capitalist economies work and the role and importance of the profit incentive. It briefly discusses alternative options for capitalist economies in order to illustrate that capitalist economies are a system of how consumers, buyers, workers, and firms interact through prices and the profit incentive.

Instructors can delve into as much depth as they want in this section, which can last from thirty minutes to two hours, depending on whether the discussion questions are used and the depth of analysis the audience seeks. Presented here, it takes approximately one to two hours, depending on the amount of discussion the instructor allows.

This illustration could be presented at the beginning of a series of trainings so that the audience has a general overview of some of the issues discussed, or after discussing more topical issues such as the recession, in order to deepen the audience's understanding of these other issues.

Materials Needed

1. Fake money—both coins and bills (you can buy fake bills, bring Monopoly money, or make your own yourself).
2. Snacks like a variety of potato chips (regular, BBQ, salt and vinegar) and/or corn chips, etc. This illustration assumes the instructor will use plain potato chips, BBQ potato chips, salt and vinegar potato chips, and dip.
3. Small paper plates or napkins for your snacks.
4. Two fake stock certificates that you can make yourself.
5. Flip chart and markers or black board.

Preparation

1. Place small amounts (half a cup) of a single snack, like plain potato chips, on napkins or small plates. Make sure every serving has the same amount. Provide enough servings as you have for half the audience. If you have an audience of 20, provide 10 plates of snacks.
2. Put another type of a single snack (such as BBQ potato chips) on a few more plates, for a quarter of your audience. If you have an audience of 20, provide servings for 5, all the same size.
3. Put a third type of a snack (such as salt and vinegar potato chips) on one or two plates or napkins.
4. Have dip nearby to show the audience.

This game can be played with other types of snacks, but the script will assume the instructor is using various types of potato chips.

Presentation: An Introduction to Economies

In any economy, you need to determine the following:

- How much to produce of various items like cars, trucks, TV's, ice cream, chairs, IPods.
- What items to produce.
- How to produce these items.
- How much to charge for these items.
- Who receives the items produced.

One way to do this is to have a **command economy**, also known as a centrally planned economy or a command and control economy. This is the type of economy the Soviet Union had when it existed. At one time Russia, China, and Cuba followed this system, as well as countries in the Soviet Bloc in Eastern Europe, such as Poland and Romania. In this economy,

- Firms (called enterprises) were told what to produce by the government or "state" – they were told to make steel, washing machines, cars, sofas, etc.
- These enterprises were told how much to produce by the state (e.g. 3000 tons of steel).
- The state told them what prices to charge.
- The state also told them who received the products (e.g. sell to Factory B).

The term "command economy" comes from the fact that the state is telling everyone what to do —"commanding" everything.

In addition,

- Workers were told where they would work.
- The state determined the pay for these workers.
- The government or "state" owned all the factories, land and houses. Individual people couldn't own these things.

[NOTE: Usually people ask a lot of questions about this type of economy, since especially for younger adults, they had never heard about it before. Take as many questions as you have time. Answers to the most common questions are at the end of this section on page 14.]

Another type of economy is one of **worker cooperatives**. Under this system, workers make the decisions. Workers determine what to produce, how much to produce, how to produce these, and what to charge. They also determine whom to hire, what to pay each other, and what to do with their profits—whether to invest them, pay themselves more, expand the company, etc.

The former country of Yugoslavia was one of worker cooperatives. The region of Mondragon in the Basque region of Spain is currently one of worker cooperatives. In the US, the plywood industry in the northwest has cooperatives. Worker cooperatives exist in small businesses in the US as well. [NOTE: Answers to commonly asked questions about worker cooperatives can also be found at the end of this section, on page 15.]

The last type of economy is the **market economy** or **capitalist economy**. The US is a capitalist economy, and most economies today are based on capitalism. In order to understand how this system works, I will illustrate a pure market or pure capitalist economy. Then we'll look at how the US system and most market economies work.

Under a pure market model or pure capitalism are the following assumptions:

- There are a large number of small businesses producing products and offering services.
- There are a large number of consumers or buyers of products and services.
- No individual business or buyer can affect prices of a product or service, since each is too small to do so. (Think of a bodega in your city selling fruit.)
- There is no or very limited government involvement in the economy.

In addition, under market economies:

- The "means of production" (stuff that produces wealth) are owned privately: Individuals and groups own the raw materials, factories, farms, stores and houses. You can buy a store, business or house, if you have enough money. Contrast this with the command economy, where the state owned all of these.
- Economic choices are made by individuals: Individual people can sell their houses or stores. Individual people can decide to work and where to apply for jobs (in contrast to command economies, where you were told these). Businesses can decide what products to produce, how to produce them, whom to hire, and what prices to charge. Consumers can decide what they want to buy.
- These choices are executed by markets—the interaction of buyers and sellers. Markets determine what is bought and sold. How does this happen?
- Self-interest is a major motivator in this economy:
    - Consumers want to buy the best products at the lowest prices because they want the best value for their money. This is their self-interest.
    - What do businesses want? Producers (businesses) want to make the most money. This is their self-interest.

- Workers want to work for the best employers that have the highest salaries and provide the best benefits. They want to avoid dirty, dangerous jobs and some want to work the least amount.

[NOTE: Obviously this is simplistic. Some consumers want to buy "green" products. Some businesses have altruistic goals and donate some of their profits to charity or perform pro-bono work for the community. Some workers work in low-paid jobs in the community because helping others is most important to them. But even with these deviations we can still see how the economy works even if some people/businesses have these other goals. What is important is that if this describes most behavior of most people, we can still look at the outcome of the theory. After all, stores like Wal-Mart and Target continue to grow because low prices seem to be most important to consumers, businesses have to make some money in order to give some of it away, and most workers savor higher pay, good benefits and receiving raises.]

Prices play a particularly important role in this economy

- They provide signals to producers, consumers and workers.
- They allocate goods—distribute products and services.
- They tell businesses what to sell, what to charge, and if they need to increase or decrease the amount they are producing.

How does this work? Businesses want to make **profits**. What is profit?

Profit is revenue (money a firm receives from selling products or services) minus the costs of production.

Revenue, the money a firm receives, is the price they charge times the amount they sell.

If consumers want more SUVs and fewer motorcycles, they start buying more SUVs. Dealerships find they are out of stock. What do they do? They increase the price of SUVs to buyers who want them and who are willing to pay more—they can do this because there are enough buyers and a shortage of cars. What happens? Profits increase. Car companies decide to make more SUVs.

Meanwhile, motorcycle sales fall. What happens if you are a motorcycle dealer? You aren't making money. Profits fall. Will more or fewer motorcycles be produced? Fewer, since you're not making money.

- Car companies are not told what to produce or what prices to charge. But by trying to earn a profit, they will produce products consumers want the most because this generates the most profits. It's as if an invisible hand guides them to provide more of what consumers want, in this case, SUVs, and to reduce the items that consumers don't want, in this case, motorcycles. If they don't provide what

consumers want, what happens? They don't sell anything and profits fall. So self-interest produces what consumers want.

This is really important. To show you this in more depth, I'm going to illustrate a market economy and how this works. I'll illustrate a simple economy, a potato chip economy.

The Potato Chip Economy Game

Instructions

Ask the class who is hungry. Have these people sit on one side of the class or remember who they are. Divide the class in half. Half are businesses and half consumers. Make sure the hungry people are consumers. Give the potato chip (or other snack) samples you prepared before class to the businesses; each person should receive one sample. Give fake money to consumers.

This illustration should run like an auction, with consumers bidding by shouting out the prices they are willing to pay and producers shouting out prices they are willing to offer. The italicized questions are questions to ask of the participants.

Game Script

These people (point) are consumers like you and I who buy things. These people (point to producers) make potato chips; they are small businesses that want to make profit. What will they charge for their potato chips?

All the potato chips are exactly the same, and there are a lot of businesses selling them, so they can't get together and discuss what price to charge. So what happens?

- *Who wants to buy potato chips?* (Encourage a hungry consumer to start the game.)
- *What will you offer for potato chips?* (Ask a consumer to name a price; repeat the price so all can hear.)
- *Will anyone sell for this price?* (Ask the businesses; if they agree on a price, have them exchange the fake money from the consumer for potato chips. Write the price on the board/flip chart).
- *Does anyone else want to buy some?* (Ask consumers and their prices.)
- *Will anyone sell for the offered price?* (Ask producers if they are willing to sell at this price. Exchange fake money and potato chips. Write the prices on the board.)
- Continue this process until all the consumers have bid for potato chips, and write the prices on the board or flip chart.

What happened? (Show the prices listed on the flip chart or black board. They should reach a narrow band when most of the selling occurred.) We just had a market for potato

chips, and the price coalesced around a certain amount. If it's the same product, this is what will happen. *Why?*

- The market adds **discipline**. Businesses can't charge really high prices to gouge customers because customers have other options—they can buy from another producer. The producer who charges unreasonably high prices won't sell anything.

The producers get a sense of what customers are willing to pay. They won't charge any less because they know what customers are willing to pay. Customers who will buy only at unreasonably low prices won't buy anything.

- Now, what if one producer has BBQ potato chips? (Give one serving to a producer). *Who wants to buy this?* (Take bids from various consumers; the price should be higher).

Let's analyze what happened in this market. The consumers wanted this product, so what just happened? The price increased. What happens to profits? It increased. What will the other producers do? Sell BBQ potato chips!

Let's make more BBQ potato chip sellers and see what will happen. (Hand out only two more servings to other producers).

- *Who else wants BBQ potato chips?* (Run a BBQ potato chip auction: Take bids from consumers and sell the chips; give the chips to the consumers and fake money to producers. Write down prices.)

Notice that the market encouraged producers to make BBQ chips by increasing the prices and profits. No one told them to do this.

Let's see what will happen if even more people sell BBQ. (Give out the rest of the BBQ chip servings to producers.)

- *Who wants to buy BBQ chips?* (Take bids from consumers and exchange chips for fake money. Write down prices.)

What happened? The price for BBQ chips started to fall. Enough BBQ chips will be produced to satisfy customers, but if too many are produced, what will happen? The price of BBQ chips will continue to fall, with profits falling. What will producers do? They will see the falling prices and won't produce these if regular potato chips are selling at higher prices. Once again, prices signal to producers what to produce—regular or BBQ potato chips—and how much of each to produce.

- This is also why invention occurs—you make more money. BBQ chips was a great invention, and the inventors were rewarded with higher profits.

Producers will continue to invent things, hoping for higher prices. What about salt and vinegar potato chips? (Give this to one producer.)

- *Who wants to buy salt and vinegar chips?* (Have consumers bid for the chips; exchange money for chips).

Again, notice that prices increased so profits increased. More will be produced from either this producer or others who will notice that this brings higher prices and profits.

- What if someone invented liver flavored potato chips? Would anyone buy it? No. There would be no sales, so the producer would lose money and stop producing this and start producing something else that will make money. This happened with fat free potato chips. Remember that? It seemed like this was going to be a money maker, but few people bought it, so they aren't produced anymore.

More inventions will occur so as to produce what consumers want: dip (show this), ice cream, frozen yogurt. The market arranges to produce what society wants, in quantities that society wants, like an invisible hand governing over the process.

By seeking to make profit, items consumers want are produced as profits rise for these products. When customers don't want something, profits fall and firms stop producing these items. So by trying to make as much money as possible, consumers benefit.

In market economies,

- **What** to produce is dictated by prices and profit.
- The **prices** to charge are dictated by the market.
- **Who** receives the product is determined by consumers and their incomes, tastes and preferences – how much they have to spend and whether they want BBQ, regular or salt and vinegar potato chips.

What if one of these other firms (point to one) wants to produce something, like salt and vinegar potato chips, but it doesn't have the money to do this? What can it do? It can borrow money from a bank. A lot of companies do this.

Or it can sell **stock** to raise money. Selling stock means that companies are selling to someone a portion of the future earnings of a company. The buyer receives some of the profits during the year in what is called a **dividend**. Who wants to buy stock? (Have that person give fake money to the company and give him/her the stock certificate.) Now a company has money that it needs, and this person (point) will receive money back if the company is successful.

- What if you bought stock in this company, and it is doing well, but this other company (point to another producer) is earning more money making frozen yogurt. What would you do? You would sell your stock in this first company (give him/her money for the stock certificate), take the money, and buy stock in this other company. (Exchange the money for the other stock certificate.)

Every quarter companies announce their earnings, and stock prices rise or fall depending on how companies are doing. If the company is doing well, the stock price will rise, since others will want to buy shares of stock of this company that will have more profits and dividends to distribute. If it isn't doing as well, the stock price will fall.

- For executives at companies, their bonus pay, which is the largest part of their pay, depends on how the company is doing and is linked to the stock prices.

Companies will try to make money. They have to. They have a fiduciary responsibility to make as much profit as they can for their shareholders. If they don't do this, their shareholders will sell their stock and buy someone else's.

Companies are not in business to make a certain product and employ workers. They are in business to make money.

- What is the **policy** in this economy? No government interference – people are doing what they want to do and are receiving products that they want.

To see this, think about if the government did intervene. What if the government set the price of potato chips, and this price was too low? There wouldn't be enough potato chips; producers wouldn't go into that business because it wouldn't make as much money, so there would be shortages. What if the government set the price too high? No one would buy potato chips, and companies wouldn't sell them.

What if the government told producers how many potato chips to produce? There may not be the amounts people want—it could be either too many or not enough.

Questions for Discussion

[NOTE: Print these questions before the session and have them ready to hand out, or put on a power point slide.]

Do markets work as described in the pure market model?

Why or why not?

Which products most closely resemble this type of market?

Discussion

The products that most closely resemble these markets are those with a large number of sellers and buyers. The stock market is a pure market, for example, with many buyers and sellers. The products that least resemble these markets are those with a few firms, such as aircraft manufacturing, phone service, airlines and oil companies. Usually there are not many firms because of the high cost of entering the industry—e.g. wiring the

country with phone lines, buying costly aircraft. Not many people or groups of people can afford to do this. Industries with lower set-up costs are usually more competitive.

- The US has some large firms (think Microsoft), and even large buyers—Wal-Mart is a huge buyer of products, and so it can influence the prices of products that they purchase. The US also has government involvement in the economy.

Most countries, including the US, are in fact what we call **mixed economies**. They are mixed because most businesses are for-profit firms, and markets with buyers and sellers determine prices as described above. But they also have a government that provides services such as a Post Office, fire and police protection, schools and universities, national parks, road repair, and subsidized transportation such as subways and bus service. The US government also provides Social Security, health care for the elderly and the poor, food subsidies for the poor, and other services.

In the US and in some other countries, there are also government regulations for health and safety in the workplace, environmental protection for air and water, and labor laws such as minimum wage, maximum hours, and non-discrimination regulations.

The debate in economics is how much of a role government should play. To the extent that the economy acts like that in the pure market model, government is not needed. To the extent the economy fails to act like this, government may be needed.

Commonly Asked Questions about Command Economies

Do these economies exist anymore? Only in North Korea, which is the only country to hold onto the command economy, but it too is allowing more capitalism and will continue to do so. The other countries changed over time to allow small businesses and capitalism into their economies. Cuba and China have elements of central planning but allow for-profit firms or individuals to start their own businesses in some areas of the economy.

When did they exist? Russia instituted this system in the 1920s and 1930s, and Eastern Europe after 1948. They lasted until around 1989, when Russia changed its system and most of Eastern Europe followed. China has instituted various reforms over three decades and increasingly so in the last two.

Why don't they exist? These systems gradually transformed during the late 1980s and early 1990s.

What were the problems with these economies?

1. Under this system, there were shortages of everything that people needed, such as bread, milk, and shoes. So even if you had money to buy things, there was nothing to buy. (The government kept prices low so that ordinary people could buy the items they needed, but this meant that there were chronic

shortages since there were more people who could buy these items than items produced.)

2. It was hard for the state to coordinate this system. It had to determine how many nails, steel, yarn, cloth, etc., to produce. This is difficult to do and it was easy to get this wrong, so there were plenty of items no one needed and shortages of items that people did want.
3. For a long time, these economies could function when the items produced were simple and there wasn't a variety of them: e.g., one type of car, one type of washing machine. When products became more complex the system broke down. Consumers, ordinary people, wanted different items that were not produced in their countries. Aware that these items were available in the West, they became dissatisfied and demanded change.

What were the benefits of these economies? There was no unemployment. Everyone had a job and housing. Items like bread and milk were affordable since the state kept prices low on items people needed. The problem was finding these items to purchase, as mentioned above.

Commonly Asked Questions about Worker Cooperatives

How does this economy work? If the company is small, workers meet regularly to make decisions. If the company is large, as in the plywood industry, workers buy shares of stock to join the firm and sell the stock when they leave. They essentially own the company. These workers elect people to represent them at meetings during which all company decisions are made.

What are the problems with these economies? If the companies remain small, it's easy to have meetings to make decisions. Once they become large, the structure of having representatives make decisions may become difficult, with long meetings and workers feeling that they are not adequately represented. Workers in the former country of Yugoslavia didn't even know that their economic system was one of cooperatives. In addition, if you must buy stock to join a company and the company is very successful, it may be difficult to produce tens of thousands of dollars to join the company. The economy is not a panacea for workers in that workers are not immune from layoffs and recessions.

What are the benefits of these economies? Workers can feel that they own the company and work productively for it. It can be democratic, if it works.

II. THE FINANCIAL CRISIS: A ROLE PLAY

This section discusses mortgage lending and the credit crisis that precipitated the current 2007-2009 recession, which is continuing at press. In doing so, it also discusses the multiplier effect in spending and briefly, how money is created and how this can lead to increased spending, incomes and expansions in the economy. Conversely, it briefly discusses how reductions in lending and the money supply can lead to reduced spending and incomes and contractions in the economy.

For adult learners, this section may be best for the first session, since it is the most pressing. Teenagers and college students—anyone who hasn't felt the effects of the recession, can wait until later in the course for these materials.

Even today, there are many debates surrounding the financial crisis. What should have happened? Who/what was responsible for the financial crisis? What policies are needed to prevent this from occurring again? This section discusses the major players in the financial crisis and the main policy debates. Course participants discuss among themselves what policies should occur and the Bush and Obama administrations' responses.

This section includes a role play that illustrates the major players and institutions in the financial crisis and how lending occurs. It requires at least twelve people. It is best broken into two segments, ending just after the illustration and before the discussion questions. This entire section lasts three to five hours depending on the amount of discussion you allow.

<u>Materials Needed</u>

1. Placards for the following:

    S&L (the reverse side should say "Countrywide")
    Investor
    Lehman Brothers
    Teachers' Pension Fund
    Moody's
    Deutsche Bank
    Societe Generale (France)

2. Fake money.
3. Fake houses. You can use Monopoly houses, make cardboard houses or bring photos or drawings of houses.
4. Fake mortgage papers. Half sheets of paper with "mortgage" printed on them. One should state "$700/month" on a post-it note covering up "$1500/month" beneath it.
5. Fake savings account. Make a small quarter sheet book by cutting paper or cardboard and printing "savings" on it.
6. Blackboard or flip charts.

7. Fake bonds, MBSs, CDOs, CDSs. Use half sheets of paper and type these on them. Have at least ten MBSs and five each of the others.
8. Fake ratings cards: Have "AAA" written on half sheets of paper.
9. Small empty box with "SPV" written on it.
10. Six large manila envelopes.
11. Props for the following businesses:

    Restaurant: Tablecloth, empty wine bottle, place setting for two (plates, forks, spoons, knifes, napkins).
    Travel agency: Fake toy airplane and/or boat; or tiki cups, panama hats, sun glasses.
    Jewelry store: Costume jewelry.
    Furniture store: Fake play furniture.
    Car dealership: Fake cars. (You can use Monopoly cars, match box cars, or glue photos on cardboard.)
    Home Depot: Assorted tools and items like a hammer, screw driver, screws, light bulb.

(If you don't have enough people for all of these businesses use some of them.)

Preparation

Before the class starts,

1. Put one bond and two CDOs and MBSs in the SPV box.

2. Set up the businesses as follows:

Group these businesses together

- Restaurant: Place a tablecloth over a table that audience members are sitting around, and set up the empty wine bottle and place setting for two: plates, forks, spoons, knives and napkins.
- Travel agency: Place fake toy airplane and/or boat; or tiki cups, panama hats, and sun glasses in front of an audience member.
- Jewelry store: Place costume jewelry in front of an audience member.
- Furniture store: Place fake furniture in front of an audience member.
- Car dealership: Place fake cars like matchbox or Monopoly cars in front of an audience member.
- Home Depot: Place assorted tools and items like a hammer, screw driver, screws and light bulb before an audience member.

Group these businesses together

- S&L: Place S&L placard in front of an audience member and give that person fake money, savings booklet, and two mortgages.
- Lehman: Place placard in front of an audience member and give that person bonds and CDSs.
- Investor: Place placard in front of an audience member and give this person fake money.
- Moody's: Place placard in front of an audience member. Give this person AAA ratings cards.
- Teachers' Pension Fund: Place placard in front of an audience member and give this person fake money.
- Societe Generale (France): Place placard in front of an audience member and give this person fake money.
- Deutsche Bank: Place placard in front of an audience member and give this person fake money.

3. The instructor keeps some bonds, fake money, a stack of mortgages, manila envelopes, a stack of MBSs, houses, and the SPV box.

<u>Role Play Script</u>

[NOTE: Italics indicate questions/directions to people in the role play.]

Let's go back to the 1960s, when things were a lot simpler, to learn some basics. At that time people put their savings in Savings and Loans (S&Ls) or in banks. (Pick someone from the audience to be the saver and give him/her fake money. Address this person.) *Let's say that you put your savings, $40,000, in this S&L.* (Have the saver give money to the S&L in exchange for the savings account book. Write this person's name on the board next to "$40,000".) This is your savings account.

Do banks and S&Ls keep your money there? No. They make money by making loans, such as loans to buy a house.

Let's say this person wants to sell their house and rent one downtown after they retire. (Choose a different person to be the house seller. Give him/her a house.) We're back in 1960 so houses only cost $30,000.

You want to buy this house for $30,000. (Point to a third person—the buyer.)

The S&L has money to loan to you. (Have the S&L give the buyer some of the money just deposited, who in turn gives it to the seller. The seller gives the buyer the house.)

Seller, what are you going to do with the money you just made? Why don't you put it in the S&L? (Put $30,000 on the board with the second person's name on it.)

A **mortgage** is a loan to buy a house. The mortgage is a contract. It's the homeowner's promise to pay back the loan. If the homeowner can't pay back the loan, it's called a **default**. If the homeowner defaults, the mortgage gives the lender the right to take possession of the house, which is called a **foreclosure**.

By law, S&Ls had to charge low interest rates so that homes were affordable. This is how millions of Americans were able to afford to buy homes in the 1960s. This meant that the interest rates they could give you on your savings accounts were also low, though, because the interest they were charging was low. So you're only getting 2% interest on your savings.

The difference in the amount they charge for interest on mortgages (5%) and the amount they pay to their savings account holders (2%) adds to their profit.

- Because they were making money from people taking out loans and paying their mortgages every month, they had a financial stake in making sure that the borrower, here (point to the buyer), could pay back the mortgage.

The S&L could only give out a limited amount of mortgages, though, because by law they had to hold a certain amount of money in reserves. The amount of money they had to hold in reserves is called a **capital requirement**.[1] Let's say it's 10%.

- The S&L doesn't have to keep all $30,000 in the bank. It keeps $10,000 and lends out $20,000. *Who wants $20,000?* (Put person's name next to $20,000 on the board). Now the bank keeps 10% of this, or $2,000 and can lend out $18,000. *Who wants $18,000?* (Put person's name and $18,000 on the board.)

[Note: By now you should have the following on the board:
Name of saver $40,000
Name of seller $30,000
Name of person $20,000
Name of person $18,000]

What happened? You have $40,000 (point to the saver). You have $30,000 (point to the seller). If you want to spend your money, it's there for your use. But the $40,000 just created an additional $68,000.

Money was created by lending out money. Banks don't have to keep all of the money in its accounts on hand but can lend some of it out. This creates money.

- The additional loan will create $300,000 in the economy![2] This is because most money in the economy is not cash or coins but simply a line at the bank that

[1] The percentage of money banks and S&Ls needed to hold in their reserves to meet the capital requirement is called the **reserve ratio.**
[2] The amount of money created is equal to the new money deposited times the inverse of the capital requirement (in this example 30,000 times (10/1) or 300,000).

records how much people have in their accounts. Because most people leave some of their money in a bank, the S&L lends out any extra money above its capital requirement, creating money.

[Note: Be sure your audience understands this. Some may ask if this is because everyone deposits their money into the same S&L. If so, show two banks on the flip chart or blackboard, S&L and Bank A, and how if some people deposit their money in Bank A, the same event occurs, with the bank lending out and creating money. Emphasize the point that banks create money by lending out money.]

- ➢ If you lend money to a friend, you're not creating money, because you're taking money from yourself and giving it to someone else. If banks loan out money, they are not taking it from another person's account. That person's account is still there; the full amount is ready to use. Because banks can write a line with money in it for someone when creating an account for a loan they are creating new money.

What will the seller do with their $30,000? (Point to the seller.)

- I have a nice restaurant here (point). Do you want to go out to eat?
- Here's a travel agent (point). Do you want to go on vacation?
- Here's a jewelry store (point). Do you want to buy something nice?
- Here's a furniture store (point)**.** Do you want some furniture?
- Here's a car dealership (point). Do you want to buy a new car?
- Here's Home Depot (point). Do you want to fix up your house?

What will you do with your money? (Have the seller tell you. Give the business the money. Give an item to the house seller from the business (car, jewelry, furniture, etc.)).

What will you do with $20,000? (Address this person. Give them some money and have them give some money to the business in exchange for an item.)

What will you do with $18,000? (Point to this person. Give them some money and have them give some money to the business in exchange for an item.)

You now are earning a lot of money. (Point to one of the businesses – restaurant, jewelry store, travel agency, etc. *What will you do with your extra money?* (Have each business tell you where they would spend money, and take some of their money and give it to the appropriate business.)

Notice money is circulating throughout the economy.

- ➢ Besides creating money, lending activates the economy. People spend money on restaurants, jewelry, cars, household items, vacations. This becomes income to restaurant owners, car dealerships and other business owners. They then have money to spend. Businesses boom – they can hire more workers and expand their

businesses. Workers are getting paid and have nice incomes and can spend this money on restaurants, stores and businesses. Everyone's doing well. Employers have customers, they can employ people and enjoy dining out and going on vacations.

Lending creates money and spending in the economy. This leads to income for some businesses and creates jobs.

- What would happen if suddenly these loans stopped? People wouldn't buy these items. They wouldn't go out to eat as often, and they would cut down on spending on vacations. This means that businesses don't receive income, and if they don't have the income, they can't spend as much themselves. This reduces economic activity, spending, income and then jobs. If business is declining, at first you may not work as many hours in the restaurant, and you don't receive as much income in tips. If business continues to decline, you can't have as much staff at the restaurant if you don't have as many customers, so some of the staff may be laid off.

[Note: Take questions here. Be sure they understand how money circulates in the economy, becoming income to some as spending occurs, and how loans and spending create jobs.]

Now let's examine what has happened in the past few years. In the present houses cost $300,000 not $30,000, and the financial system has been transformed.

Our S&L is now Countrywide. (Change placard to Countrywide.) Countrywide specializes in making mortgages. It is national.

Many investors are **institutional investors**, like the Teachers' Pension Fund. They collect money from workers' paychecks and invest this money. Where do you invest? Because workers depend on their pensions for their retirement, the Pension Fund must invest only in very safe investments.

Lehman Brothers was an investment bank. **Investment banks** don't handle savings and checking accounts from ordinary workers and people like us. Their job is to bring people with money (pension fund) together with people who need money (Countrywide). Investment banks arrange for stocks, bonds or entire companies to be sold. Investment banks include Goldman Sachs, Morgan Stanley, JP Morgan, and (before it went bankrupt) Lehman Brothers.

- Today, most mortgages don't stay with the original lender. They are bought and sold. Let me show you how this works and what happened to precipitate the financial crisis.

First, Countrywide will make a mortgage. Let's say (name of buyer) is going to buy a house from (name of seller) again but in 2006. (Give seller another house). This buyer

goes to Countrywide and Countrywide approves the mortgage. *Countrywide gives Buyer the money for the home*, and the home goes to Buyer, who signs the mortgage papers to pay Countrywide every month. (Give Buyer the home from Seller; have Countrywide hold up mortgage.)

- Now Lehman Brothers will buy mortgages from Countrywide. How does Lehman have the money to do this? Lehman can get a loan. It can sell bonds.

Who has money out there? (Address the investor.) You have money. *You give Lehman money, and in exchange, Lehman will give you a bond.*

A bond is like a loan, with promises of repaying you in the future.

Now Lehman has money. *It gives money to Countrywide to buy mortgages. Countrywide gives Lehman mortgages*. (Have Lehman exchange some of the money for mortgages.)

Countrywide receives a fee for its service; *Lehman, give them their fee*.

Countrywide has made a fee for originating mortgages and has sold the mortgages to Lehman. It has money to make more mortgages. (Have Countrywide hold up its money.)

- Lehman takes the mortgages that it bought and puts them in different piles or traunches, depending on the risk each mortgage has. (Take a pile of mortgages and add these to Lehman's; divide stack of mortgages into three piles.)

It puts the safest mortgages in one pile, the next safest in another, then another (put the three piles of mortgages in three separate manila envelopes). It hires Moody's to give it a risk rating.

- Moody's uses a computer model that looks at mortgages from 1979 to 2002. It knows that if you buy hundreds of mortgages only a few will default and you will earn money on the rest. It gives a good rating for these, since even if a few don't pay, the rest will. Since these mortgages come from all over the country and there has never been a decline in housing nationwide (until now), it rates these as safe.[3] (Have Moody's hold up a ratings card.). *Lehman, give Moody's a fee for its services.*

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[3] Technically, credit ratings agencies gave different ratings according to how safe they thought the investments were, with some receiving AAA ratings, others AA ratings, B ratings, etc. But these were rated safer than they should have been because the ratings agencies never thought a national downturn in housing could occur, nor did they ever look at the actual mortgages to see if incomes were properly documented, etc. In late 2006, ratings agencies downgraded their ratings on tens of billions of dollars of MBSs and CDOs.

Next Lehman sets up a new company called SPV. An **SPV** is a **special purpose vehicle**. It has no employees. It is a legal entity. (Give Lehman the box.)

- Lehman sells the three traunches of mortgages to the SPV. (Put the three manila envelopes into the box.) How does the SPV pay for this? *It sells bonds*. Who has money to buy these? Yes, this investor (address the investor). *This investor gives the SPV money and gets a bond in exchange* (give investor a bond from SPV in exchange for money that goes into the box). The investor will receive his money back plus interest. *The SPV can give Lehman money for the mortgages.*

- Lehman will issue **Mortgage Backed Securities (MBS)** through the SPV (hold up three MBSs; each corresponds to the separate piles of mortgages in the manila envelopes). *Who wants to buy this?* They're safe. The Teachers' Pension Fund. *Teachers' Pension Fund, give the SPV money, and get a MBS. Lehman receives a fee for creating the MBSs.* (Give Pension Fund an MBS from the box in exchange for money. Give some of the Pension fund money going to the box to Lehman.)

Lehman's SPV owns the mortgages but Lehman will hire Countrywide to collect the mortgage payments. When a *homeowner pays his/her mortgage, Countrywide receives a fee for collecting the money. It sends the rest of the money to the SPV, and money from there goes to the Teachers' Pension Fund.* (Give the buyer fake money; have most of the money go to Countrywide. Have Countrywide retain some money for its fee, sending most of the money to the SPV and from there to the Pension Fund.)

- Lehman does something else. It takes MBSs, puts a lot together (hold up MBSs), along with commercial real estate loans, auto loans and student loans, and puts these in piles or traunches again. (Put MBSs into three piles; put each pile in a manila envelope.) It then sells a **Collateralized Debt Obligation, or CDO**, through its SPV (hold up CDO from box). Lehman gets Moody's to rate these. Since all the loans are diverse—coming from different areas, housing, auto, student loans—they seem safe. If housing goes down auto and student loans shouldn't. *Moody's rates these as safe and gets a fee for this* (have Moody's hold up ratings card; give Moody's a fee from Lehman).[4]

Who wants to buy this? (Show CDO to audience.) Lehman's own hedge fund will. (Have Lehman give money to the box in exchange for a CDO. If other audience members want to buy these, sell them from the box.)

Hedge funds are investment funds. They are not regulated, and you have to have a large minimum investment amount to participate. *Lehman will keep some of these CDOs. It will sell CDOs to other investment funds, like to the French bank, Societe Generale, and collect a fee for putting together the CDOs.* (Exchange CDO from the SPV for most of

[4] Technically, credit ratings agencies gave different ratings from safest to least safe. But in general these CDOs were rated safer than they should have been because the ratings agencies never foresaw a national housing decline nor that default rates would increase for all loans—in housing, auto, commercial real estate, credit cards, etc.

the money from the French bank. Have Lehman retain a fee from the rest of the money from the French bank.)

CDOs didn't exist in 1995. By 2007, they reached $60 trillion.

Now when a homeowner pays its mortgage (give money to buyer and to one other member of the audience, a second homeowner)*, the money goes to Countrywide, which collects a fee. Countrywide sends the money to the SPV, the money then goes to the Teachers' Pension Fund to pay the MBS* (give money from first buyer to Pension fund)*, but if it was repackaged into a CDO it would go to the French bank instead* (give money from second homeowner to the French bank).

Everyone's happy, right?

- Countrywide has money to sell mortgages; it receives fees for doing so and for servicing the mortgages.
- Lehman receives fees for putting together MBSs and CDOs. In fact, much of the profits on Wall Street before the financial crisis were for securitizations such as these.
- Moody's is collecting huge fees. Their profits tripled between 2002-6 in fees from rating structured finance products such as these.
- People can obtain loans for homes because there are many businesses wanting to make them, since loans are profitable. Businesses have the money to make loans because they sell them to others.

Lehman also sells insurance on its MBSs and CDOs. If the French bank is afraid it won't get paid, it can buy insurance from Lehman, so that even if the mortgages default it will still get paid. (Have the French bank give money to Lehman in exchange for a CDS.)

- This insurance is called a **credit default swap or CDS**. Investment banks that bought MBSs and CDOs bought this insurance so that these investments were safe. Investment banks also sold CDSs along with the CDOs and MBSs they issued so that the latter would be safer since they were insured.

- No one knows how many CDSs were issued. They were unregulated. Unlike with insurance companies, which are highly regulated and must have cash on hand in case they have to pay out claims, companies that issued CDSs didn't have to keep a certain amount of money available to pay off claims.

- CDSs were also issued to people who didn't even buy MBSs and CDOs. They could buy them if they thought a CDO would fail at Lehman's. *So Deutsche bank, you can buy these from Lehman*. If the CDO fails, Lehman's will pay you the amount the French bank would have received. If it doesn't fail, it was cheap to buy anyway (have Deutsche Bank give money to Lehman in exchange for a CDS). *Who else wants one?* (Sell these to audience.)

What fueled these financial investments was the rising value of homes. (Show slide) Housing was a great place to invest. A lot of people in the 2000s were making a lot of money on real estate, buying and selling homes for a profit, and real estate investment funds were making a lot of money. Globally, savings doubled between 2000-8. There was $34 trillion new money to invest. Housing in the US looked like a great place.

There were plenty of mortgages for Lehman to buy as

- People bought second homes.
- People refinanced their homes and took money out of them.
- People received home equity loans to fix up their homes.
- New customers. A lot of people wanted to buy homes but didn't have the credit history to buy them or the down payments. They were given mortgages anyway.

Subprime mortgages are mortgages given to people with low credit ratings. They either have problems in their credit history (such as defaulting on a loan) or no credit history. They have to pay higher interest rates since they are at greater risk of defaulting.

Alt-A mortgages are mortgages given to families with no documentation of income.

How could families afford housing?

- Option ARM mortgages had low teaser interest rates that were reset later.
- Interest only loans. Families received interest-only mortgages, where they only paid, say, $700/month and didn't pay any principal. But this interest rate would reset in three years. (Give audience member a home and the mortgage with the changing interest rate.)
- Families paid less than 20% down payment. (Give audience member a home.)
- Sometimes families paid no down payment. (Give audience member a home.)

➢ As more people received loans for homes, demand for homes rose and prices rose (give out more homes to audience members). A major reason for the huge increase in housing costs was the fact that so many more people qualified for home loans than ordinarily would have. (Show slide of housing prices again.)

What happened to people who didn't own homes (turn to these audience members)? *How did you feel?* (Take answers from audience.) They were unable to afford them, or they felt like they had to buy a home before prices got out of reach. (Take comments from audience about what happened during this period of time.)

By 2007, sub-prime mortgages reached $1.3 trillion dollars, covering millions of homes.

What happened next?

- The low teaser mortgages and other mortgages reset, such as the Option ARM. Now instead of paying $700/month for your house, you have to pay $1500/month

(change mortgage payment for family by removing $700 sticker, revealing $1500 underneath).

- Families couldn't afford to make payments, so a lot of homeowners defaulted on their mortgages. (Take some homes away from audience members.)
- Beginning in 2006, subprime mortgages defaulted within months of getting mortgages. (Take more homes away from audience members.)
- In April 2007, housing prices fell nationally for first time in the US since the government had begun keeping records. This meant that many people couldn't sell their houses for a profit or refinance. The entire housing market and practice of giving mortgages for low teaser rates presumed that people would be able to refinance for lower rates later because housing prices would keep rising. This didn't happen and families could no longer make payments on their houses or sell them for what they paid.

What does this mean? If a family is defaulting on its mortgage it cannot pay its mortgage to Countrywide. (Show this by pointing to or moving from the buyer to Countrywide.) Countrywide is not passing the mortgage income to the SPV (move or point to the SPV), and the holders of MBSs and CDOs are not receiving any money (move or point to the Teachers' Pension Fund and the French Bank).

- Do you think Lehman and the investors want to buy mortgages anymore? No. Countrywide is stuck holding the mortgages it just sold. It paid out million of dollars for these but cannot sell them, and they are not getting money from homeowners, so Countrywide, about to go bankrupt, is bought by Bank of America. A number of lenders and banks that dealt in subprime mortgages went bankrupt.

- Those of you holding CDOs and MBSs—how do you feel? You're not getting paid. Immediately, these securities were almost worthless, paying 10 cents on the dollar.

- But if you had a CDS—the insurance, you can still collect—if the insurers have any money left!

Lehman, you owe these investors millions of dollars. Do you have it on hand? No. That is not nearly enough. *When I say "go" everyone who has a CDS, try to collect money from Lehman. Ready, set, go!* (Have everyone try to get their money.)

What happens to Lehman? It goes bankrupt. Many Wall Street firms that dealt in CDOs, MBSs, and subprime mortgages were weak, since these are not worth much anymore. Bear Stearns would have gone bankrupt if it wasn't bought by JP Morgan. AIG, the biggest seller of CDSs, is now owned by taxpayers. It required billions of taxpayer dollars to stay afloat (show slide).

- Do you think Countrywide wants to make any more mortgages? No. Mortgages stopped cold. CDOs, MBSs, and CDSs stopped. No one wanted to lose money or buy mortgages in case people defaulted on them.

- Wall Street looked at auto and student loans, too and became scared. It didn't want to buy these anymore, either.

Suddenly it became difficult to receive loans for autos and homes. This created the "**credit crunch**" we have been experiencing. Credit has been frozen. This means that it is very difficult to get loans, because institutions are no longer buying loans. What happens when loans stop? Money isn't created and circulated in the economy. People stop buying cars and homes, which reduces income for others (point to car dealer, Home Depot), and jobs decline.

Even if some institutions wanted to buy loans no one had the money to do this.

- Remember the capital requirements of S&Ls and banks? Investment banks don't have to keep as much capital but they have to keep some money or assets that are worth money on hand. Some of these assets they kept were MBSs and CDOs. But what happens when the MBSs and CDOs are now worth a fraction of what you thought they were worth?

- In order to meet its capital requirements banks and investment banks had to sell assets. Citigroup lost over $40 billion in mortgages and these MBSs/CDOs, so suddenly it had fewer assets than required to pay its debts and meet its capital requirement. It had to raise money quickly, so it sold its German unit, Citibank Deutchland, to a French Bank for $9 billion in cash. European Banks and American investment banks had to suddenly raise cash to meet their capital requirements and debt obligations. This meant that they didn't have the money to make loans. Even if they wanted to buy loans most financial institutions didn't have the money for them.

To recap:

1. Too many loans for homes were given out, raising the prices of housing.
2. People started defaulting on their mortgages, unable to pay them.
3. The prices of housing started falling nationally.
4. Investments in mortgages--providing mortgages, buying them and income streams based on them (MBSs, CDOs)--stopped.
5. Loans that were once made easily suddenly stopped. This created the current credit crunch.
6. Because of the credit crunch, less money is circulating in the economy, and with this, less spending and incomes for everyone. This caused the current recession.

Questions for Discussion

[NOTE: Break the participants into small groups of four or five people and have them discuss these questions among themselves for about 20 minutes to see what solutions they would have followed. Have them report to the main group what they decided and discuss them as a group.

What Should We Have Done?

1. *Have the Government buy "toxic assets" (CDO, MBS) so banks don't have them anymore and can loan out money?*

2. *Have the government give money to investment banks so they don't go bankrupt? (Government loans and guarantees on the CDOs and MBSs they sold, receiving shares of stock in return?)*

3. *Help people pay their mortgages so default rates stop?*

4. *Regulate investment banks?*

5. *Take over investment banks or banks that are failing?*

6. *Other?*

Discussion

There has been a huge debate about what was done, what should have been done, and what policy changes should occur. We will never know what would have happened if we had followed different policies. The following are the pros and cons of the various policy options debated and what the Bush and Obama Administrations did.

1. *Buy "toxic assets" (CDO, MBS) so banks don't have them anymore and can loan out money*

   The argument is that as long as banks are holding these and they are worthless, banks cannot resume lending again, since they have no money to give away. This hurts the entire economy. The argument against this is that taxpayers are rewarding bad decisions, and investors who made bad decisions should take a loss.

   In the fall of 2008, Congress passed the **Emergency Economic Stabilization Act of 2008**, known as the bailout of the U.S. financial system, authorizing the United States Secretary of the Treasury to spend up to $700 billion to purchase mortgage-backed securities and make capital injections into (give money to) banks. Both foreign and domestic banks were included in the bailout.

This Act created **TARP, or the Troubled Asset Relief Fund**, to buy toxic assets from banks and investment banks, such as car loans, mortgages, and CDOs that no one was buying. The government also created another program in 2009 to purchase mortgage-related assets, which is discussed at the end of this section on page 34.

2. *Have the government give money to investment banks so they don't go bankrupt*

The argument against this policy is that taxpayers are rewarding bad decisions of investors and these investors should take a loss. The argument in favor of this policy is that a lot of investment banks lost much of their value because they were holding worthless assets in mortgages, MBSs, and CDOs; consequently, they were facing bankruptcy, and many more firms would have gone bankrupt if money wasn't given to them. In addition, the banking system was interconnected. Many investment banks had loaned money to other investment banks with MBSs and CDOs—now worthless—as collateral. These were called "Repo loans." If an investment bank fails, others that had lent this bank money through Repo Loans or had bought assets from them (such as MBSs, CDOs) would have taken a loss, and if the loss was great, it could have led to massive bank failures—which was the cause of the Great Depression during the 1930s. This is what everyone feared and wanted to avoid.

Most of the TARP money was used to bail out companies instead of buying up toxic assets because Wall Street firms kept failing.

- On October 13, 2008, then-Secretary of the Treasury Paulson called the CEOs of the nine largest banks in the US to Washington.[5]

- He gave $125 billion to these nine banks in exchange for stock in the companies. These banks were told to take the money so that they had enough in their capital reserves that they would not become insolvent.

- TARP funds continued to be used to inject money into banks and investment banks. Despite the capital injection it received, in November of 2008 Citigroup, one of the world's largest banks, was about to fail. The US government bought $20 billion of its stock and guaranteed $306 billion in risky loans and securities for home and commercial real estate assets (CDOs, MBS).[6][7]

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[5] These included Goldman Sachs, Wells Fargo, Bank of America, Morgan Stanley, JP Morgan, Merrill Lynch, Bank of New York/Mellon, State Street and Citigroup.

[6] Citigroup assumed the first $29 billion in losses. Beyond that the US Government absorbed 90% of the remaining losses and Citigroup 10%, using TARP funds and funds from the Federal Deposit Insurance Corporation (FDIC).

[7] There were some restrictions as a result of this agreement. Citigroup could not pay dividends of more than one cent/share for three years unless the government agreed. There were also restrictions on executive pay and bonuses.

- To avoid the same fate, Morgan Stanley and Goldman Sachs reorganized themselves and became banks.[8]

- Bank of America bought Merrill Lynch and Countrywide—the latter two would have gone bankrupt otherwise. Because of its bad asset holdings, Bank of America was caught short and the US government intervened, guaranteeing its risky loans (previously, Merrill Lynch's).

3. *Help people pay their mortgages so default rates stop*

If the cause of the credit crunch is that people are defaulting on their mortgages, the solution could include helping families pay for their homes. The problem with this policy is that if homeowners made bad decisions to buy homes they couldn't afford, it is unfair to taxpayers to reward these people for their bad decisions. If they were duped into a loan that they didn't know would become unaffordable, however, or if they are unable to pay their mortgage because of job losses or other unfortunate events, then this solution is more palatable.

The Homeowner Affordability and Stability Plan (cost $279 billion)

- Passed in February of 2009, its goal is to help as many as 9 million families refinance mortgages or avoid foreclosure.

- It provides $75 million in financing for reducing mortgage payments.

- It gives $1000 per loan as an incentive for owners of mortgages (such as banks) to refinance loans. In this program the lender voluntarily reduces the loan payment to 38% of monthly income. The government matches money provided by the lender to reduce the mortgage payment down to 31% of income. Lenders can stretch out the mortgage repayment to 40 years, reduce interest rates, or reduce the principal (the amount owed on the mortgage), in order to reduce payments by borrowers.

- To qualify, the home must be a primary residence and the first mortgage.

- $200 million was also provided for Fannie Mae and Freddie Mac, institutions now mostly owned by the government, to buy mortgages from lenders.

4. *Regulate investment banks*

Investment banks are not as heavily regulated as banks and insurance companies. They hid their debt and dodged some regulations by creating SPVs to issue the MBSs and CDOs and **Structured Investment Vehicles** (SIVs) to hold the ones they bought. Some argue that more capital requirements were needed, and that institutions that

[8] The FDIC, a government agency, guarantees their accounts under this new structure.

were not under federal regulations, like hedge funds, should be. Some people are arguing that new financial products, like MBSs, CDOs and CDSs should be approved before they are used.

- The Obama administration has called for regulation and transparency of financial inventions such as CDOs and CDSs and for these financial products to be traded and bought openly (as are stocks). They want new rules and regulations that cover all financial institutions, including hedge funds and Wall Street firms. They are calling for registering and monitoring hedge funds (these funds are against this proposal). Legislation has not yet passed on these issues, and it is unclear if any of these changes will be made.

- The Obama Administration and Treasury Secretary Geithner have called for increasing capital requirements once the recession is over. It is unclear if this will be passed.

5. *Take over investment banks or banks that are failing*

During the 1980s when Savings and Loans were failing the US government through the Resolution Trust Corporation took over failed S&Ls and sold off their bad assets. Sweden took over banks in the 1990s. Some people argue that the US should have done the same for the investment banks.

Economist Paul Krugman argues that the government should have guaranteed most of the bank debt to calm down markets, taken control of insolvent banks, firing the existing management and Boards of Directors, then sold off the assets and the companies.

- **Pros**: It worked for the Savings and Loan Crisis. If the US government has to pour in a lot of taxpayer money, then it should be able to control the companies directly. And if management was the problem they should be replaced.

- **Cons**: The US economy has had a history of the government not being involved in businesses. In addition, if the US is taking over some companies but not others, there may be a perception that the government-controlled firms would have a competitive edge because these would be seen as safer, making it more difficult for firms that were not taken over by the government to compete in the business. In addition, if people think the government will take over a bank, stockholders will sell their shares of stock and the price will plummet—leading to a self-fulfilling cycle of bankruptcy. In addition, critics say that the scale of the financial crisis is much larger than the S&L crisis of the 1980s and Sweden's banking crisis.

- The Obama Administration and Treasury Secretary Geithner want authority to take over and resolve financial problems at financial institutions (like hedge

funds) that are not currently covered by federal authority. This legislation has not yet passed, and it is unclear if it will.

6. *Other*

Often participants have many creative suggestions. Here are a few others that may be mentioned.

a. **Do nothing.** The argument is that if firms and people made bad decisions in terms of bad investments and mortgages then they should not be bailed out by the government. The argument against this is that the government did nothing in the beginning of the Great Depression, and economists believe that the Depression lasted so long and was so severe because of this inactivity. It was only entry into World War II that brought us out of it.

- When Lehman failed in September 15, 2008 the stock market crashed, falling over 500 points within minutes, as investors assumed other banks would fall. The country was facing a total economic meltdown. This is why then-Secretary of the Treasury Paulson, a very conservative laissez faire (hands off from government) regulator intervened and made investment banks take money from the US government in October of 2008.

- When at first a bill to prep up the financial system failed to pass Congress on September 29, 2008, the stock market crashed again, by 521 points. This convinced Congress to subsequently pass a similar bill.

It is impossible to say what would have happened if nothing was done, but these two stock market crashes convinced policymakers to bail out the system. As Federal Reserve Chair Bernanke says, this was very distasteful to do, but he felt it was necessary to avoid a second Great Depression (he is a scholar of the first one).

b. **Go back to the way the Savings and Loans used to be.** If the problem was changing the way mortgages were made and sold why not go back to how things were before? S&Ls changed because they were not able to compete with other financial institutions. Because they were regulated to only charge low interest rates, they could only offer low interest rates to savings accounts. Consumers flocked to other financial instruments—CDs and mutual funds, for example, that paid higher rates for their savings; consequently, many S&Ls went out of business. In addition, allowing mortgages to be bought frees up money so that more lending can occur.

c. **More regulation of mortgage lenders.** Over half of subprime loans in 2004-5 were originated by independent mortgage companies not affiliated with any bank. This means that they were not regulated by any federal agencies, only by state regulation.

- The Obama administration has called for federal standards for mortgage lenders and more enforcement of mortgage rules. Although the former has not occurred, the latter has. That's why it's harder to get mortgages now, and some say mortgage lenders have gone too far and are being too careful in lending money.

d. **More regulation of credit agencies.** Claiming that this was not their role, credit agencies such as Moody's, Standard and Poor's, and Fitch never looked at actual mortgages to verify if they were proper. They claimed that the mortgage brokers should verify that mortgages were safe and fit to be financed. Hence the term "liars loan" was coined over loans that were clearly ridden with error such as with false income levels. Today credit agencies say they will demand verification of mortgage data (income, etc.) or won't rate the security (bond, MBS, etc.).

- Some people suggest that credit agencies should be paid by investors, not the sellers/issuers of the investments. Because they were paid by Wall Street firms, and only if the firms agreed with their ratings, there may have been a conflict of interest in properly rating financial investments like MBSs and CDOs. The Obama administration has suggested getting rid of this conflict of interest but has not been specific about how to do so. Legislation has not yet passed.

- Others are saying that independent ratings agencies run by the government should be used to avoid such conflict of interest.

To conclude, we haven't seen the end of the housing crisis. Although housing prices are stabilizing and home purchases are now increasing, foreclosures are rising and will continue to do so with rising unemployment and while interest rates continue to reset to higher levels. Commercial real estate loans are also predicted to default.

- Estimates are that there are the following:
  - Subprime mortgages: $1 trillion
  - Alt A mortgages: $1 trillion
  - Options ARMS (these interest rates will reset): $500-600 billion, of which 50-70% will default.
- Eight million families will lose their homes in next 4-5 years.
- There are $2 trillion in toxic assets such as CDOs and MBSs.

Information for Trainers

The following questions may come up during this session.

1. What are "securities?" A piece of paper with a promise for future earnings. Stocks and bonds are examples of securities.

2. Why didn't PMI pay for mortgages that homeowners couldn't pay? The companies that provide PMI are insolvent. They didn't have enough money to pay everyone.

3. What happened to the money given to investment firms by taxpayers? Nobody knows for sure, but it appears that most of it was used at first to fulfill capital requirements and pay debts so the companies didn't go bankrupt. Congress criticized investment banks for not increasing lending to help the economy and for not accounting for how they spent the money. Some of the money has been repaid now—Goldman Sachs, JP Morgan, Morgan Stanley, State Street Bank, and others have repaid their loans. A list of the amounts awarded to banks and whether or not they have been repaid is reported in the *New York Times* on June 24, 2009 or for subscribers is at http://projects.nytimes.com/creditcrisis/recipients/table.

4. The government is now buying toxic assets through an additional program announced in the spring of 2009. This is how the plan works:

    - Banks can sell bundles of mortgages[9] to investors through an auction that the FDIC sets up. The highest bidder would receive these mortgages, and hedge funds, private equity funds, pension funds and banks can bid on them.

    - The US Government lends as much as 85% of the cost to buy these mortgages to investors. The remaining cost is split between the government and the investors. Any profits are split between the government and investors.

    - For example, if a bank sells $100,000 of mortgages and the highest bid, from Citigroup, is $84,000, the US Government can lend Citigroup $72,000. For the remaining $12,000 needed, the government will spend $6,000, or half of the remaining cost, and the investor puts in $6,000. Both the government and Citigroup split the profits. In this way, Citigroup gets $84,000 of mortgages for $6,000. If all the mortgages default, Citigroup walks away from this "non-recourse loan" and the US Government gets the mortgages and can be the one to lose money. If housing values continue to fall so the value of the mortgages is $50,000, the government is not paid.

    - In addition, the US Government will provide matching investments for firms that buy MBSs and CDOs. Experienced asset managers submit proposals to the US Treasury to buy these from financial firms. For example, if a group wants to buy MBSs for $400,000, the asset manager puts in $100,000. The US Treasury puts in $100,000 and provides another $200,000 in loans to purchase the rest. The US Government and asset manager share any returns from the MBSs.

[9] These are actual mortgages, not MBSs.

These two programs can buy $500,000 to $1 trillion of mortgages and mortgage-backed securities (MBSs, CDOs).

- Possible problem: Will anyone buy these? Banks want more money (two-thirds of the value) than investors are willing to pay (only one-third of the value). The government is hoping the low interest loans will entice investors to pay more than they ordinarily would.

III. THE RECESSION: A DISCUSSION

This section discusses the recession that began in December of 2007 and is continuing at press time. It discusses how the credit crunch caused the recession, the policy debates around solutions to the recession, including monetary, tax and spending policies, and the Obama administration's policy responses. An optional section includes a discussion about the US deficit and government debt, how the US government borrows money, and additional critiques and debates about the Obama administration's policies.

Materials Needed

1. Fake money.

2. Props for the same businesses as in the Financial Crisis Section:

Restaurant: Tablecloth, empty wine bottle, place setting for two (plates, forks, spoons, knifes, napkins).
Travel agency: Fake toy airplane and/or boat; or tiki cups, panama hats, sun glasses.
Jewelry store: Costume jewelry.
Furniture store: Fake play furniture.
Car dealership: Fake cars. (You can use monopoly cars, match box cars, or glue photos on cardboard.)
Home Depot: Assorted tools and items like a hammer, screw driver, screws and light bulb.

(If you don't have enough people for all of these businesses use only some of them.)

3. For the optional section: investor placard, bonds and fake money.

Preparation

Before the class starts, set up the businesses as in the financial crisis section as follows:

- Restaurant: Place a tablecloth over a table that audience members are sitting around, and set up the empty wine bottle and place setting for two: plates, forks, spoons, knives, and napkins. Give them fake money.
- Travel agency: Place fake toy airplane and/or boat; or tiki cups, panama hats, and sun glasses in front of an audience member. Give this person fake money.
- Jewelry store: Place costume jewelry and fake money in front of an audience member.
- Furniture store: Place fake furniture and money in front of an audience member.
- Car dealership: Place fake money and cars like matchbox or Monopoly cars in front of an audience member.
- Home Depot: Place fake money and assorted tools and items like a hammer, screw driver, screws and light bulb before an audience member.

For the optional section, give the investor placard and fake money to someone in the audience. The instructor keeps the bonds and some fake money.

The Script

Last time we discussed how new financial instruments—MBS, CDOs and CDSs--were not as safe as they had appeared to be, and after mortgages stopped being paid and housing prices fell, credit froze. We will discuss how this affected the world economy.

When credit freezes, what happens? There are fewer loans, less economic activity, and so less income to businesses and workers, resulting in fewer jobs.

1. **Businesses went out of business**. They couldn't obtain loans to repay previous loans—they couldn't extend the loans they had or roll them over. Since they didn't have the cash to repay their loans, they went out of business. This means that people were out of work. (Take away props from the furniture store.)

2. **There were fewer mortgages made, refinancing mortgages, and loans for home improvement.** What does this mean? (Stand in front of or point to Home Depot.) People aren't going to Home Depot to fix up their homes; there's less income going to this company so fewer workers and hours are needed (take money away from Home Depot). This means less income to workers, who will spend less on eating out and going on vacations.

3. **There were fewer loans for commercial real estate.** Less money is going to contractors and developers. Jobs in construction dried up nationally.

4. **There were fewer loans to cities and states**, or the interest rates they paid to borrow money were much higher.

The economy was already in trouble because of the slowdown in lending and thus economic activity. Then in July of 2008 consumers became afraid. Gas prices were high and the stock market fell. People felt they had less wealth and had to be careful. The result was that people stopped spending money. Remember that when people don't spend as much money, this is less income for others—businesses and store owners. Savings increased from zero to over 4% of income.

- (Move over or point to the businesses.) What happens to the restaurant, the travel agent, jewelry store? (Go over answers.) Some go out of business because of the reduction in spending (take away props from travel agent). Some lay off workers or cut work hours or pay. (Take away money from jewelry store and restaurant .)

Retail fell in all but discount chains like Wal-Mart.

Because people are not spending money, not as many jobs are needed. Jobs are still being lost nationally every month. In the beginning of the recession, over 600,000 jobs

were lost per month; this dropped to job losses of 400,000 per month, and at press time, to 200,000 jobs per month.

[Note: Use updated statistics on job losses or see this footnote for some.][10]

- Job losses started in home building and mortgage operations early in the recession, then spread to finance and banking, and now has spread more generally to all sectors—manufacturing, retailing, and information technology.

- Unemployment has risen and is now 9.7%. Economists predict that it will continue to rise until it is in the double digits and may be high for another year.

Although it has since recovered, the stock market tumbled in the spring of 2009. Stocks of major firms looked like dollar items. World-wide, stocks fell even further than in the US.[11]

- State tax revenue fell, since earning money on stocks and other investments (which are taxed in some states) fell. This has led to cutbacks in cities and states.

- Crime has risen—burglaries and car thefts, because of the economy.

Because the US is the world's largest consumer, other countries are hurting because we are no longer buying the products they make. Manufacturing has fallen in China, Japan, India, the Ukraine, Latvia and Hungary. Exports are down in other countries. China has lost 20,000 jobs; entire towns have emptied out.

European banks had bought mortgage-based securities like CDOs from US banks. As with US banks, they took large losses and had to suddenly raise money in order to meet their capital requirements. They stopped lending since they didn't have any money to lend, causing a European credit crunch. This led to a recession in Europe, and with Europeans buying less, there were fewer exports to Europe from Eastern European countries such as Poland, Hungary and the Czech Republic.

- Previously, European banks had loaned money to Eastern European countries. With money tight, they could no longer do so, and Eastern European countries suddenly had no money. Many of these countries also relied on manufacturing

[10] Macy's cut 7000 jobs nationally.
Home Depot cut 7000 jobs, or 2% of its workforce.
Caterpillar cut its payrolls by 16%, or 15,000 jobs.
Texas Instruments shed 3400 jobs, or 12% of its workforce.
Microsoft had its first significant layoffs ever.
Citigroup, GE, Nokia and Harley Davidson cut its workforce.
IBM cut 1400 jobs.
Pfizer cut 19,500 jobs after acquiring Wyeth.

[11] Globally, stocks lost 42% of their value in 2008, erasing all gains since 2003 and $29 trillion in value.

exports for their jobs, so they suffered from the loss of loans and jobs. There was rioting in the Ukraine; Iceland went bankrupt. Latvia and Hungary also suffered, and all of these countries had to get international loans to stay afloat.

East Asian countries are also suffering from the decline in global trade.

- So although the economy in the US is bad, it's worse elsewhere. For the first time since World War II, the global economy shrank. Developing countries suffered from reduced exports, less foreign investment and vanishing credit.

The US has been in a recession since December of 2007

What is a **recession**? It's a contraction of the economy. It's usually measured by looking at GDP.

GDP stands for **Gross Domestic Product**. It's the value of all products and services produced in the US during a year.

GDP is a measure of the amount of economic activity of an economy.
Part of GDP is from investments from businesses, part of it is from spending from the government. But most of it is from consumption, spending by consumers like us. Consumption is 70 percent of economic activity. If consumption falls, our spending falls, GDP falls, and usually we're in a recession.

Consumers have cut back spending, afraid of layoffs.

- As Americans spent less, companies cut jobs and reduced their investment in equipment, software and buildings to trim their costs.

- In that way the housing crisis from the problems of mortgage lending spread to the rest of the economy.

This recession is now called the Great Recession because it is the longest and deepest since the Great Depression.

What can we do? When you are heading into a recession, there are several policy options.

Fiscal policy includes tax and spending policies.

Under **tax policies**, you can reduce taxes so that people have more money left over to spend. If people have more money (give money to someone in the audience), they may spend it in restaurants and stores (give some of the money from this person to the restaurant), and the money they spend becomes income to restaurant and store owners. The owners of these businesses in turn may spend money and hire more workers. In this way spending can increase economic activity and lift us out of the recession.

- The possible problem with this policy is that people may not spend the extra money. If they are too frightened about losing their jobs they will save the money instead.

- The benefit of this policy is that compared to spending policies, it is relatively quick for Congress to pass a tax reduction bill and have the money available to people.

Under **spending policies**, the government can spend money to create jobs. The government can allocate money to build roads, bridges and schools. People would be hired for these projects so they would have jobs, and with the jobs, money, which they would hopefully spend to activate the economy.

- The possible benefit for this policy is that it can create jobs directly—you don't have to wait for people to spend money in order for people to be hired into jobs. You can target new projects so that new workers are hired. You can also target projects and services you may want—like needed schools, roads, etc.

- The possible problem with this policy is that it takes longer for Congress to decide where to spend the money, and after these decisions are made, for these projects to begin and for people to be hired. You can see that today—some of the spending money allocated to get us out of the recession has not been spent.

In contrast to fiscal policy is monetary policy.

Monetary policy involves reducing interest rates so that more loans are given out and spending increases.

The idea behind monetary policy is that if interest rates are reduced, people are more likely to buy cars and houses since the cost to finance these is lower. Auto and construction workers then become employed in order to produce these. These workers would spend their money on restaurants and vacations, and business owners (point to these) have income to spend.

- This policy works first through auto and homes and spreads to the rest of the economy.

- Interest rates are set by the Federal Reserve, which has kept interest rates low in order to lift the economy out of the recession.

Questions for Discussion

[NOTE: Divide participants into small groups of four or five people and have them discuss the following question for about 20 minutes. Have them report their decisions (or debate if there was no consensus) to the entire group.]

Since Congress has a say only on fiscal policy, discuss these policies. What would you do? Reduce Taxes? If so, who gets their taxes reduced? Increase government spending? If so, what would you spend it on?

Discussion

There was a lot of debate about how to get out of the recession. The result was the **American Recovery and Reinvestment Act.** Passed in February 2009, it cost $787 billion. Its purpose was to use fiscal policy to stimulate the economy.

It includes both tax cuts plus spending on public works projects, education, health care, energy, and technology.

More than 74% of the money will be spent within 18 months.

[NOTE: See slides for details about this Act. Detailed text follows this section on page 43.]

[NOTE: THE FOLLOWING SECTION IS OPTIONAL]

[Note: Have participants break into small groups of four or five people to discuss the American Recovery and Reinvestment Act for about twenty minutes. Then have them report to the full class what they think.]

Optional Questions for Discussion

Do you agree with the provisions in the American Recovery and Reinvestment Act? Disagree? Are there any problems with it?

Optional Discussion

The criticisms of the policy is that

1. Not enough money is being spent to get us out of the recession. (We can only wait and see if it's enough spending to create jobs.)
2. Too much money is being spent.

> *"This is so much money that if you began spending $1 million per day when Christ was born, we would not yet be in 2009 to the full cost of this bill."*
> -- Senator David Vitter, Republican of Louisiana

The US Government budget deficit is $1.6 trillion.

The **budget deficit** is the amount the government spends that exceeds the amount it receives from tax revenue.

- As a comparison, the deficit in 2008 was $438 billion
- The previous record was $413 billion in 2004.

The deficit will grow to $1.75 trillion from the stimulus package.[12]

The US Government Debt is $11 trillion.

Government **debt** is the total amount the government owes from all the years of deficits.

(Deficits are by year; the debt is the total amount owed from accumulated deficits over the years.)

- ➢ The major criticism of the stimulus bill is that the amount of money being spent is so much that it will increase inflation or interest rates.

Inflation is the rate (the percentage change) that prices increase.

The belief that government spending can fuel inflation stems from the idea that there is a limited capacity in the economy—only a certain amount of workers and materials available. The fear is that if the government is spending money building roads, schools and bridges, it can reach this capacity. With shortages of supplies and materials, prices can increase, as we saw in the potato chip economy. With shortages of workers, wages can increase and with this, the prices of products that workers produce. (Although the government may not increase fees for its services, businesses may pass on higher costs as prices increase.)[13]

Let's turn to the interest rate argument. In order to pay for the stimulus package, the government borrows money by selling bonds, just like corporations do. (Address the investor.) You have money to invest. *You give the government $100 for a bond.* In ten

[12] The Obama administration says that the deficit will be reduced to $533 billion by 2013 from withdrawing from Iraq, higher taxes on the wealthy and reducing tax loopholes for investments abroad.

[13] Keynesian economists, those who believe that the government should increase spending during recessions, argue that during recessions, there is so much extra capacity in the economy—which is why there is a recession—that there is no fear of increasing inflation to any problematic level. They also argue that deficits are not a problem if they fund investments that will pay off in the future. Just as it is often beneficial to go into debt to attend college (because one will recoup the costs of college through higher earnings after graduation) it may make sense for the government to go into debt under certain circumstances. Keynesian economists believe that if deficit government spending ends a recession, this will lead to jobs and higher tax revenue as incomes and profits recover.

years the bond will be worth $150. The interest rate you receive is 5%. What happens when the government has to pay back this investor? It sells another bond!

Many economists believe that there is a limit to how much the government can borrow. Why?

1. If the government continues to borrow money, at some point in order to entice investors to buy additional bonds, it has to increase the money investors receive. In our example, the government may not be able to sell bonds for $100 that can be redeemed after 10 years for $150. They may have to sell these bonds for $90 instead in order to interest investors. This increases the interest rate to 6%.[14]

2. This increase in interest rates can dampen the economy. This is because interest rates tend to rise and fall together, due to competition for funds. If the interest rate paid to US Government bonds has increased, why put your savings in a CD, money market or savings account? In order to attract funds, the interest rates on these alternatives may increase. But if banks must pay more money to these accounts, it may charge more interest for loans in order to maintain its profits. Increasing interest rates on loans has a dampening effect on the economy. Fewer people receive loans for cars and homes, so fewer auto and construction workers are hired. These workers spend less money since they have less income, reducing activity in the economy.

3. Some economists also fear that with the government borrowing more money, it's harder for businesses to borrow money. Since investing in businesses is riskier than investing in the US government, businesses have to offer higher interest rates on the money they borrow, increasing their costs of business and reducing profits. This may lead to fewer jobs.

The debate in economics is precisely where these limits are for government borrowing and when these consequences will occur.

<u>Additional Talking Points on the American Recovery and Reinvestment Act</u>
[Note: Some programs are repeated in different categories]

1. **Tax Cuts**

$282 billion, or 35% of the stimulus money, reduces taxes to individuals and businesses.

Individuals

a. Income tax credits[15] of up to $400 for workers and $800 for couples in 2009 and 2010. This was accomplished through reducing paycheck tax withholdings. On average you will receive $8/week extra. Individuals earning up to $75,000/year

[14] (150-90)/10.
[15] Tax credits reduce your income taxes by the amount of the credit. If you don't owe any taxes, you receive a refund for this amount.

and couples earning up to $150,000/year will receive the full credit. You don't qualify if you make over $100,000/year for individuals or $200,000 per year for couples.

b. First time homebuyers can reduce their federal income taxes up to $8000 if they purchase a house before Dec 1, 2009.
c. You can deduct the sales tax you pay on a new car that costs up to $49,500. (Individuals earning up to $125,000 and couples earning up to $250,000 qualify.)
d. Higher education tax credit of $2500.

Businesses

a. Can reduce taxes if they purchase new machinery placed in service in 2009 (through accelerated depreciation).
b. Other tax breaks.

2. **$120 billion for spending on infrastructure**

- $8 billion for high speed rail
- $8.4 billion for mass transit
- $29 billion for highways and bridges (creating 835,000 jobs)
- $11 billion to modernize electricity infrastructure
- $6 billion for water projects
- $6.5 billion to repair and build military housing and facilities
- $4.5 billion to make federal buildings energy efficient
- $4 billion to repair public housing
- $7 billion to expand broadband access

3. **Education**

- Increases Pell Grant by $500/person to a maximum of $5350 for this fall.
- Tuition tax credit of up to $2500.
- $4 billion to Head Start, which is pre-school for low-income children.

4. **$94 billion in aid to the states**

a. $87 billion to help fund Medicaid, the health insurance program for the poor.
b. $54 billion for states with budget shortfalls to prevent teacher layoffs in school districts and colleges. States can use some of the money to modernize school buildings.
c. $9 billion to increase unemployment insurance benefits by $25/week, and extends benefits through 2009 if they run out.
d. $25 billion extends unemployment benefits to those looking for part-time work, those who quit work for family obligations, and people who no longer qualify for unemployment insurance and are in job training programs who can't find work.

5. **Aid to the needy**

- $20 billion for food stamps over several years. 19% increase in benefits ($63/month for a family of three).
- A one-time payment of $250 to those receiving Social Security, Veteran's Benefits, and SSI (disability).
- Expand EITC (tax rebates for low-income workers) next year.
- $4 bill for job training.
- $2.1 billion for Head Start.
- $2 billion for child care subsidies.

6. **Energy programs: $45 billion**

- $13 billion: make federal buildings and public housing more efficient and weatherize 1 million homes.
- $10 billion: modernize electricity grid.
- $20 billion: tax incentives for wind, solar, hydro (renewable) energy sources.
- Tax credits for buyers of plug-in hybrid cars. This can create as many as half a million jobs.
- $18 billion: environmental projects: clean water, flood control, pollution cleanup. This can create 375,000 jobs.

7. **Research and Development**

a. National Institute of Health: $10 billion

This is a 34% increase in the National Institute of Health's budget (From $29 to $39 billion). Building and equipment projects will absorb $2 billion in the Bethesda, MD NIH campus and universities across country. Most of the money will fund 15,000 more grants to scientists at universities.

b. $3 billion for the National Science Foundation.
c. $100 million for lab equipment at universities.
d. $400 million to speed construction of a neutrino detector in Antarctica, a radio telescope in Chile, and advanced gravity wave detectors in LA and WA.
e. $1 billion for the National Aeronautics and Space Administration.
f. $1.6 billion for the Energy Dept. of the Office of Science.

8. **Aid to individuals**

a. $25 billion to help workers keep health insurance coverage after being laid off. The federal government will pay 65% of the premium cost for up to 9 months. To qualify, one must have lost a job between 9/1/08 and 12/31/09, and one's income cannot be greater than $125,000 for individuals and $250,000 for families.

b. Tuition tax credit of up to $2500.

9. **$13 billion for housing programs**

10. **$19 billion to digitize medical records** and link up doctors and hospitals with information technology.