ECONOMICS FOR EVERYONE

2ND EDITION

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- **supply and demand**
- **trade**
- **production and economic growth**
- **the economic role for government**
- **unemployment and inflation**
- **economic fluctuations and recession**

CAMERON M. WEBER

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Outline

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- Unemployment and Inflation
- Economic Fluctuations and Recession
- An Explanation for the Great Recession

I. Why this Book?

Economic decisions are important to all of our lives, yet are not very well understood by many people. The purpose of this book is to help make economics clear and understandable for people who don't have the opportunity or interest in studying economics in high school or college. I describe in this short book some of the fundamental rules of economics, those which are agreed-upon by the majority of economists.

A secondary purpose of the book is to try to help advance the state of our political discussions. Economics is a social science; it is the study of how scarce resources get distributed in society; and government is a key player in this resource allocation. Government sets the rules of the game, so to speak.

Politics and voting determine which politicians get elected to office, and it is the politicians, along with the court system, who determine the rules of how people relate to each other economically. It seems to me that much of our political discussion gets bogged down in personalities and reduces to heated "us versus them" arguments instead of rational discussion around ideas. Therefore this book lays out the economic laws that help determine how society's resources are allocated, in hopes of providing a framework to which people can refer when discussing politics and to help enable them to make better informed voting decisions.

One of the founding principles of economics is that everyone is unique; this is called 'subjectivity.' Everyone has goals in life, and only she or he knows what is important to them, what makes them happy or content. This concept applies to society as well. Each person has a unique idea of the ideal society. Is it one where government is active in resource allocation, or is it one where people should be left alone to make their own subjective, personal economic decisions? Should government step in to slant the rules of the game to favor some people over others? For example, should government policy favor the poor over the rich? How does government intervention effect the allocation of economic resources?

This book looks at these social and political questions while outlining the basic economic rules. The purpose is not to convince the reader towards one optimal societal system or another but to explain the fundamental economic concepts to help make us more aware of how economic factors affect our lives and the societies in which we live. The first part of the book looks at ideas on which most economics can agree while the Appendix covers those ideas in which economists differ in their opinions.

II. Supply and Demand

Human behavior and self-interest

The field of economics is a social science that attempts to predict human behavior. In order to make predictions, economists assume that most people act in their own best interests. This does not mean that people are selfish — just that they will not usually act in ways that leave themselves worse than they were before. When given a series of choices, most people most of the time, will do what is best for themselves and for those they love.

Opportunity cost

The study of economics asks how scarce resources get allocated in society, as people act in their own self-interest. All resources are scarce. There is not enough of anything, except maybe air, to go around, to give everyone as much as they would like of anything. Everything has a cost. In economic terms this is called "opportunity cost" or *what do you give up to gain something else?* You must give up something to get something else. Oftentimes it is money that you give up, other times it is time itself that you give up.

Let's assume that our society produces two things, guns and butter, as shown below. If we produced all guns we would have ten guns, if we produced all butter we would have 100 pounds of butter. Therefore the opportunity cost of one gun is ten pounds of butter, and the opportunity cost of ten pounds of butter is one gun.

Illustration 1: Guns versus Butter

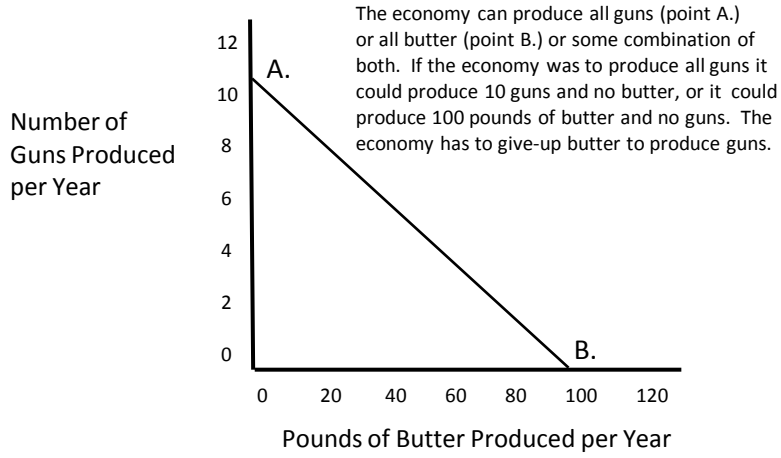
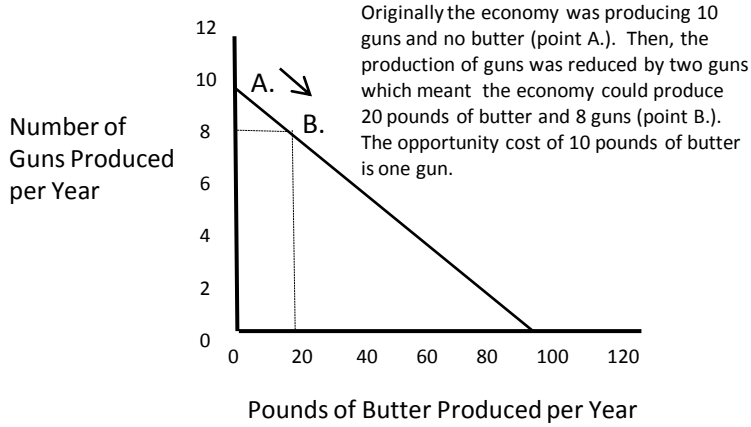


Illustration 2: Guns versus Butter and Opportunity Cost



The Law of Supply and Demand

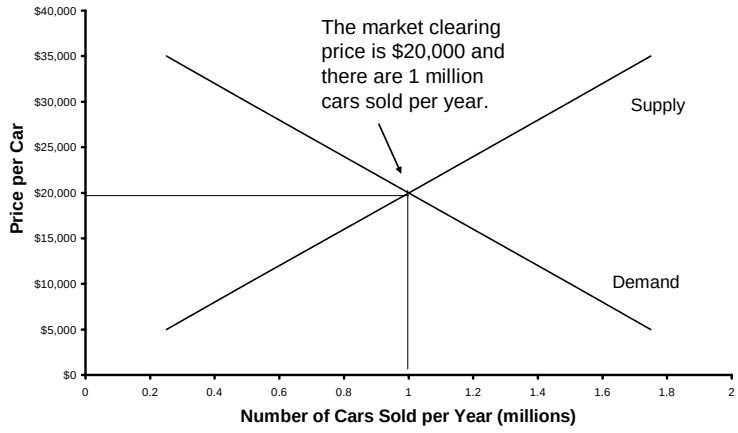
The field of economics is based-upon the law of supply and demand.[1] People meet in the "market" to exchange goods or services. This market could be anywhere, it could be a physical location or it could be on-line in cyberspace. The market is where those wishing to sell something meet with those wishing to buy something. There are markets for everything. In polluted cities, there is even a market for fresh air!

[1] The law of supply and demand has been credited to Adam Smith in *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776) and Jean-Baptiste Say in *Treatise on Political Economy* (1803). The first graphical depiction of Supply and Demand was done by Alfred Marshall in his *Principles of Economics* (1890).

Let's look at the market for cars as an example. You will see that the left side of the graph (the vertical axis) is labeled Price, and that the bottom of the graph (the horizontal axis) is labeled Quantity. The curve that represents sellers of cars is labeled Supply. Note that the Supply curve is upward sloping; more people are willing to sell more cars when the Price is greater. The curve for the buyers of cars is labeled Demand. Note that it is downward sloping; more people are willing to buy more cars when the price is less.

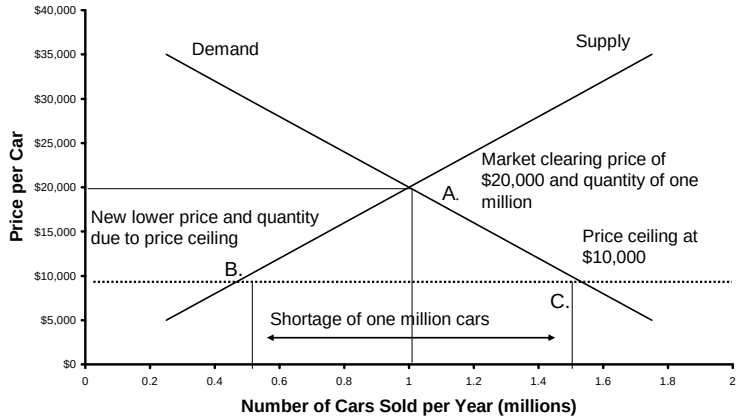
In this example the market clearing price, where supply equals demand, is $20,000 with a corresponding quantity of one million cars.

Illustration 3: The Car Market



If a price ceiling was set at $10,000 for cars, demand (the quantity demanded) would be for 1.5 million cars, but the supply (the quantity supplied) would only be 500,000. There would be a shortage of one million cars. At this set price society does not produce enough cars and 500,000 less cars are bought and sold than before the ceiling. A price ceiling is also called a price cap; it means that the price for a good or service cannot go above a certain amount.

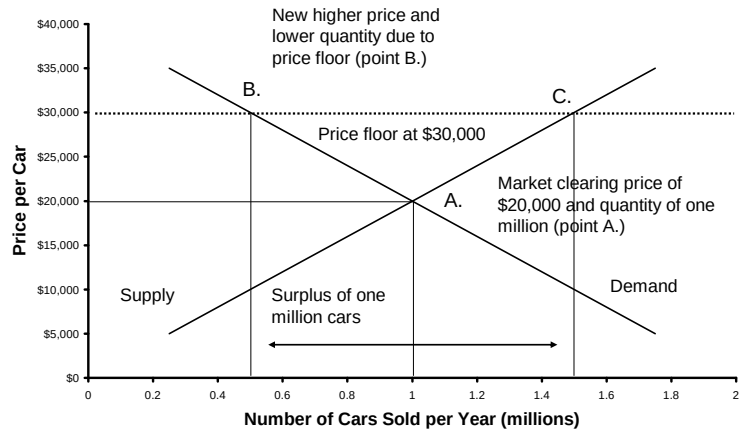
Illustration 4: The Car Market with a Price Ceiling



Note that with the price ceiling of $10,000 there are only 500,000 cars sold (point B.) compared to the market clearing amount of one million before the ceiling (point A.). In addition, the quantity demanded of 1.5 million cars (point C.) is greater than the quantity supplied, creating a shortage of 1 million cars at the ceiling price.

The same market distortion holds true for an artificial floor on price. A floor is sometimes called a minimum price, a price at below which a good cannot be sold. If the price for cars was set at a minimum of $30,000, supply (the quantity supplied) would be 1.5 million cars, but demand (quantity demanded) would only be 500,000. There would be a surplus of one million cars. At this new, higher, price society produces too many cars.

Illustration 5: The Car Market with a Price Floor



At $30,000 suppliers are willing to produce 1.5 million cars (point C.) and demanders are willing to buy 500,000 (point B.). This means a surplus of 1 million cars is created by the price minimum. Just like a price ceiling, there are 500,000 less cars being sold (point B.) than under the market clearing price and quantity (point A.).

Price: The coordinating signal

This car market illustration shows the importance of price in the market. Price is the market signal, the coordinating mechanism, which allows the market to work in allocating society's scarce resources. If the price is too high there will be too much of a good produced, if the price is too low, too little will be produced. The price sends a signal to producers that they are making too little or too much of a good. If they are making too little, the shortages in the market send a signal to produce more to meet demand. As more is produced, the price goes down and the market then reaches equilibrium at the market clearing price.

If suppliers are producing too much, the surplus sends a signal to produce less. As less is produced, the price goes up, and the market then again clears at the equilibrium price and quantity. Without this price signal there is no way to know how much of a good or service should be produced in society.

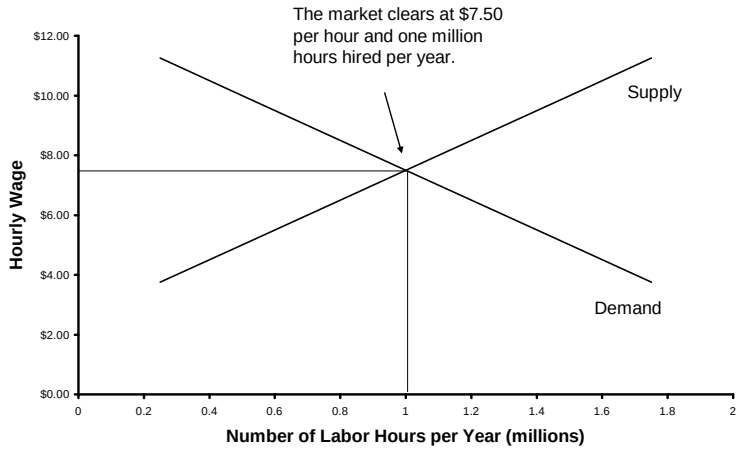
Political interventions and the law of supply and demand

Sometimes laws are passed to change the outcomes of the market (to change the law of supply and demand) to meet a public policy goal. The following section examines government price controls in five different markets; minimum wages and the labor market, rent control and the housing market, price ceilings and the market for electricity, price supports in the agriculture market and health insurance in the market for doctor visits. The final example illustrates what happens when central banks intervene in the international currency markets.

The labor market and minimum wage

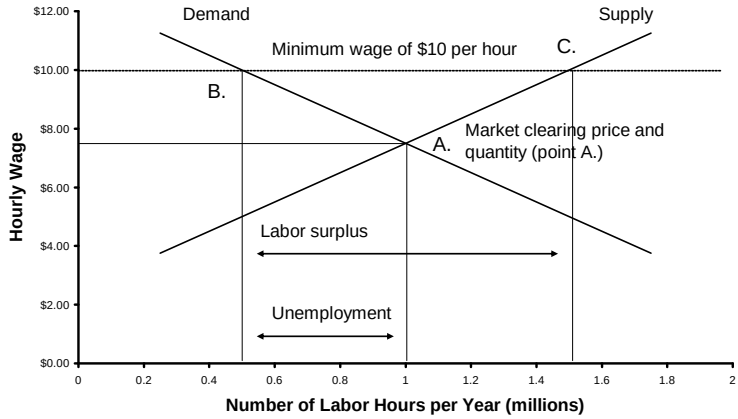
In this example supply represents the suppliers of labor (employees) and demand represents the buyers of labor (employers). More people are willing to work more hours for a higher wage and more employers are willing to hire more employees for more hours at a lower wage. In this example the market clearing price (wage) is $7.50 per hour with an equilibrium quantity of one million hours of labor hired per week.

Illustration 6: The Labor Market



If a minimum wage is set at $10.00 per hour there will be a surplus of labor; there will be more people willing to supply labor than those willing to purchase labor. This creates unemployment at the new, higher, minimum wage rate. Instead of the previous market clearing quantity of labor at one million hours per week, employment will drop to 500,000 hours per week and there will be a surplus of one million hours of labor at the minimum wage.

Illustration 7: The Labor Market with a Minimum Wage

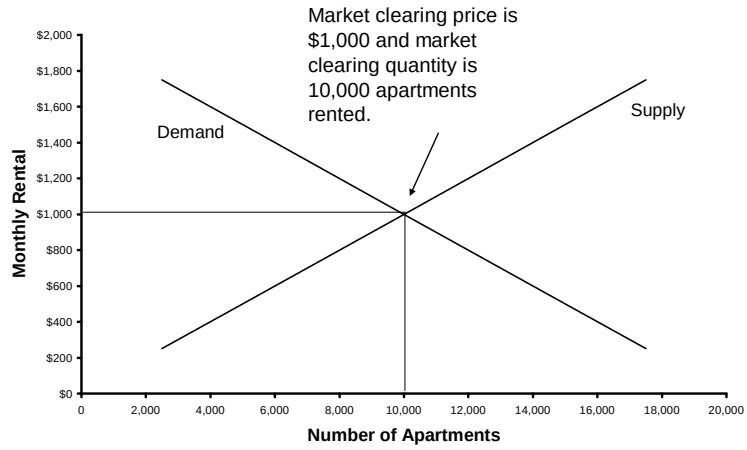


With a minimum wage of $10.00, demanders (employers) purchase 500,000 hours per year (point B.), down from the market clearing amount of 1 million (point A.), this creates unemployment and excess supply (point C.).

The housing market and rent control

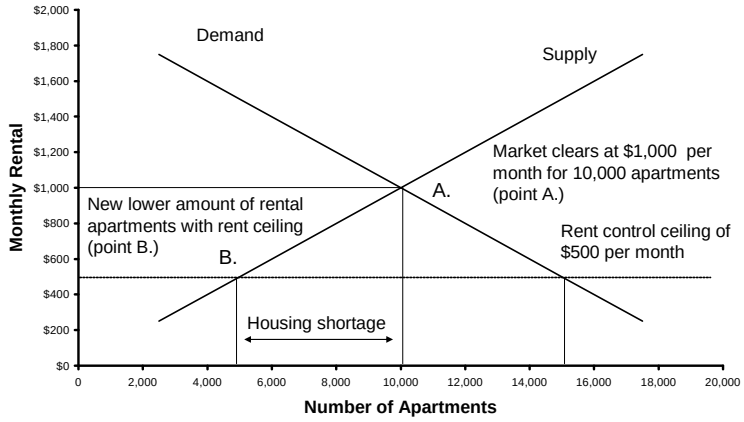
In this example, supply is the number of apartments for rent in the market and demand is the number of renters. The market clearing price is $1,000 per month rent and the equilibrium quantity is 10,000 rental units.

Illustration 8: The Housing Market for Rental Apartments



If rent control is put in place at $500 per month there are fewer people willing to rent their apartments to others and there are more people willing to rent apartments from others. The number of housing units supplied drops to 5,000, creating a housing shortage of 5,000 units.

Illustration 9: The Housing Market for Rental Apartments with a Rent Ceiling

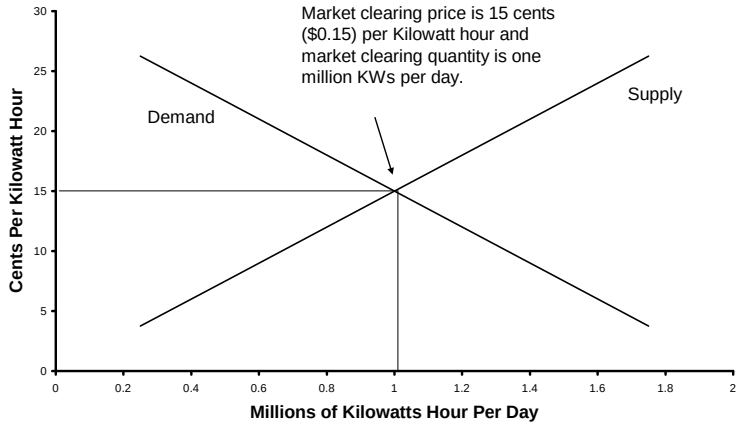


Note that with a rent ceiling of $500 per month the number of apartments supplied drops from 10,000 units at market clearing price of $1,000 per month (point A.) to 5,000 units (point B.). This leaves a housing shortage of 5,000 units.

Electricity and price ceilings

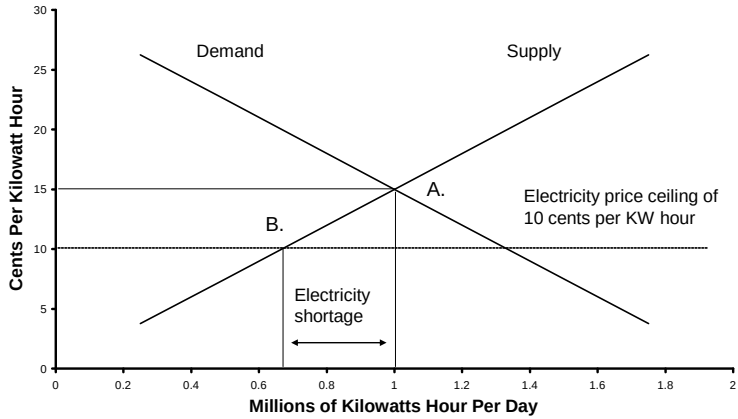
In this example under the law of supply and demand there is market equilibrium at a price of 15 cents ($0.15) per Kilowatt hour and one million Kilowatt hours purchased per day.

Illustration 10: The Electricity Market



If a price ceiling of 10 cents per Kilowatt hour is put in place there are fewer electrical producers willing to supply the market and more consumers willing to buy electricity. An electrical shortage of 340,000 Kilowatts per day takes place because suppliers are less willing to provide electricity at the lower price so the amount available to be purchased is decreased, causing an electricity shortage. This can lead to blackouts and rationing.

Illustration 11: The Electricity Market with a Price Ceiling

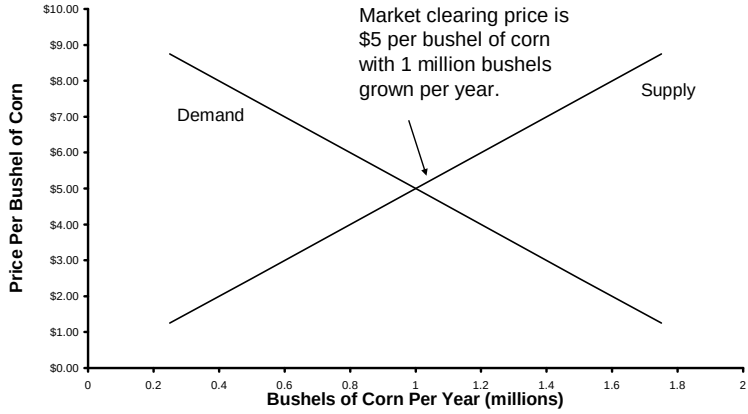


Note that placing a price ceiling on electricity creates a shortage. The new quantity supplied with a cap of 10 cents ($0.10) per KW hour is 660,000 KW hours (point B.), a decrease of 340,000 KW hours from the market clearing price of 15 cents and quantity of one million KW hours (point A.).

Agriculture price supports

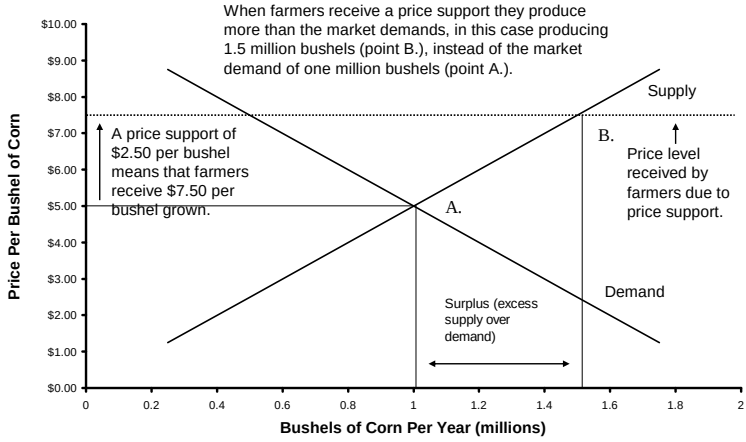
In the market under supply and demand there would be a market clearing price of $5 per bushel for corn and an equilibrium quantity of 1 million bushels per year.

Illustration 12: The Market for Corn



With a price support of $2.50 per bushel farmers receive $7.50 per bushel and therefore grow 1.5 million bushels. However, only one million bushels is demanded by consumers at the market price. This means that a surplus of 500,000 bushels is grown each year; this excess amount goes to waste, is sold at reduced prices overseas or is purchased by the government.

Illustration 13: The Market for Corn with Price Supports

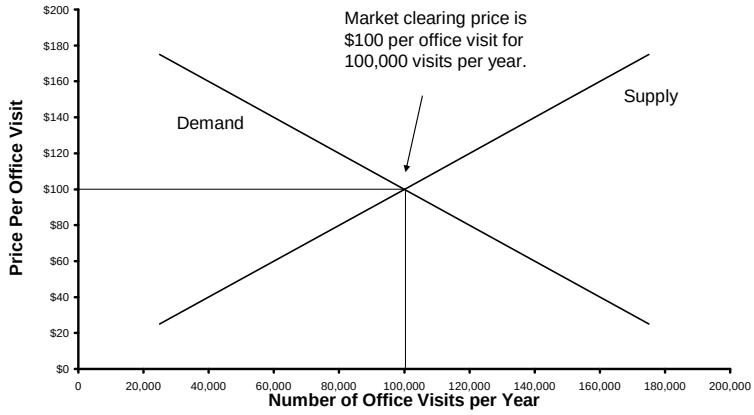


When farmers receive a price support they produce more than the market demands, in this case producing 1.5 million bushels (point B.), instead of the market demand of one million bushels (point A.).

Health insurance and Doctor's office visits

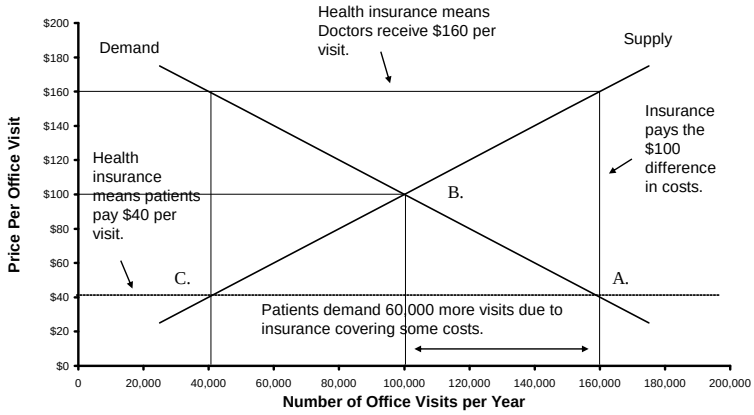
In this example the market clearing price for a Doctor's office visit costs $100 and there are 100,000 visits per year. Society pays $10 million for Doctor's office visits each year (100,000 visits per year times $100 per visit).

Illustration 14: The Market for Doctor's Office Visits



Patients with health insurance demand more visits than they would without insurance because insurance covers some of the cost. This subsidy for office visits mean that patients visit the Doctor's more than they would without insurance and society pays more for Doctor's office visits. In this case with insurance the society now pays $25.6 million for Doctor's office visits (160,000 visits times $160 per visit) compared to $10 million before insurance.

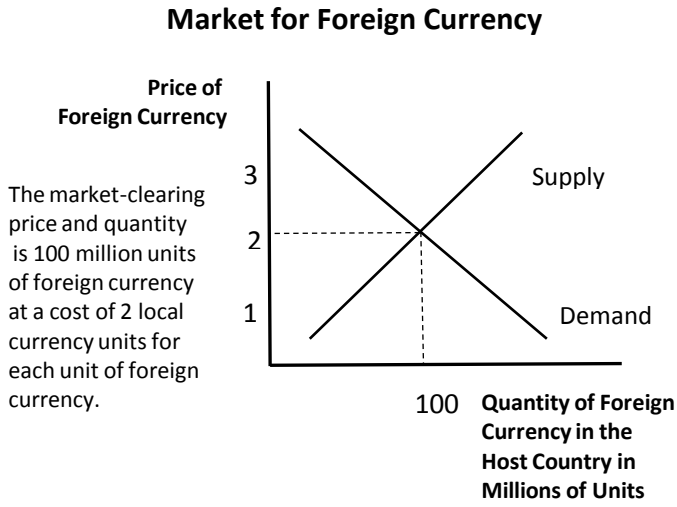
Illustration 15: The Market for Doctor's Office Visits with Health Insurance



With health insurance patients pay $40 per visit and demand 160,000 visits per year (point A.) instead of the market clearing amount (point B.) at $100 per visit. The subsidized price means that patients demand 60,000 more visits than they would without insurance.

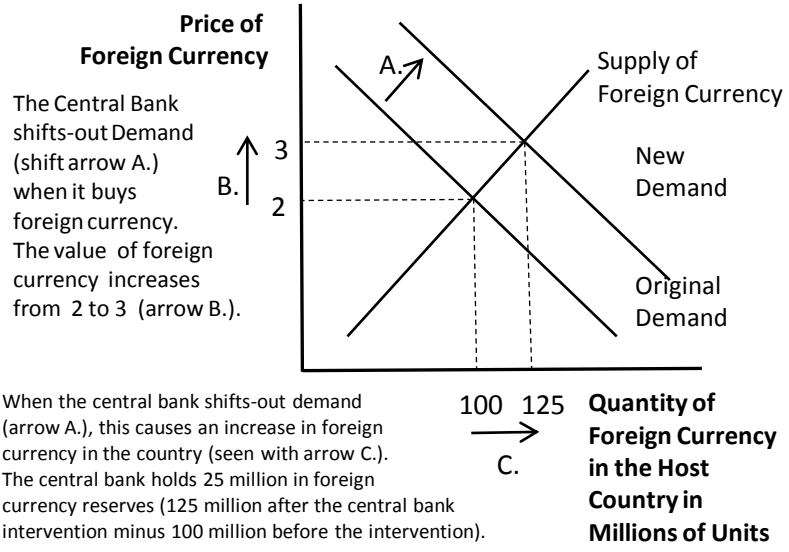
Market for international currency

In this example we find that in the market for international currency without government (central bank) intervention, a host country will buy 100 million units of another country's currency at the cost of 2 local currency units for one unit of foreign currency (for example $200 million US dollars will buy €100 million European euros).



When the central bank of country intervenes in the international market for currencies it usually does so in order to hold 'reserves' of the foreign currency in the central bank's accounts. This increased central bank demand in the market means that the Demand curve for the foreign currency "shifts-out" raising both the market-clearing price and quantity. In our example, the increased quantity of foreign currency is then held by the central bank.

Market for Foreign Currency When Central Bank Holds Foreign Currency Reserves



When the central bank shifts-out demand (arrow A.), this causes an increase in foreign currency in the country (seen with arrow C.). The central bank holds 25 million in foreign currency reserves (125 million after the central bank intervention minus 100 million before the intervention).

There is what is known as "distributional effects" when a government intervenes in the currency markets. In our example, the central bank demand drove-up the price of the foreign currency and the price moved from 2 units of local currency for each unit of foreign currency to 3 units of local currency for each unit of foreign currency (it would now take $300 million US dollars to buy €100 million European euros).

When the value of the local currency goes down this means that is costs more to buy goods which are manufactured in another country (the cost of imports increases). This means that the standard of living will go down for the people living in the country with the central bank intervention because their local currency buys less in the global economy.

However not everyone in the host country is harmed by the central bank intervention. Because the value of the local currency went down relative to the foreign currency this means that locally-made goods are now cheaper in the global market. People who manufacture goods for export now are able to sell more overseas because the price of their goods have gone down internationally.

There is redistribution of economic resources *from* the consumers in the host country (and everyone is a consumer) *to* the exporters in the host country (which is not everyone). Therefore this central bank intervention in the international currency market helps *certain* people but at the opportunity cost of harming *everyone*.[2]

[2] Many interventions into the market have "distributional effects". For example, minimum wage laws help those that already have jobs and penalize those that don't (usually those who are younger or have less skills) and rent-control helps those who already have rent-controlled apartments and hurts those that would like to live in an area where apartments are rent-controlled. Another example is a requirement to buy insurance, this helps insurance companies, but makes insurance more expensive for those that have to buy insurance. Also, consumer protection agencies tend to help those suppliers whose products are already approved, but at the cost of an entry-barrier to those not yet competing in a given market.

III. Trade

After the concepts of opportunity cost and the law of supply and demand, the concept of comparative advantage[3] is the next rule of economics.

Comparative advantage shows how all parties gain through trade even if someone can produce more and more efficiently than someone else.

Comparative advantage

Again we will use a simple example showing two products and two people trading. Joe and Nancy each produce cloth and wine. Joe can produce 70 bolts of cloth or 40 gallons of wine per year, Nancy can produce 100 bolts of cloth or 50 gallons of wine.

Illustration 16: Production before Trade

Production per Year

	Joe	**Nancy**
Bolts of Cloth, or	**70**	**100**
Gallons of Wine	**40**	**50**

Note that Nancy can produce more of both items per year than Joe can.

[3] David Ricardo is credited with the concept of comparative advantage, first found in the *Principles of Political Economy and Taxation* (1817).

Joe's opportunity cost of production for 40 gallons of wine is 70 bolts of cloth, a ratio of 4 to 7 wine to cloth. Nancy's opportunity cost for 50 gallons of wine is 100 bolts of cloth, or a ratio of 1 to 2, wine to cloth. This means that Joe has to give up less cloth to get wine and Nancy has to give up less wine to get cloth. Joe has a comparative advantage in wine and Nancy has a comparative advantage in cloth.

Illustration 17: Joe's Production and Consumption before Trade

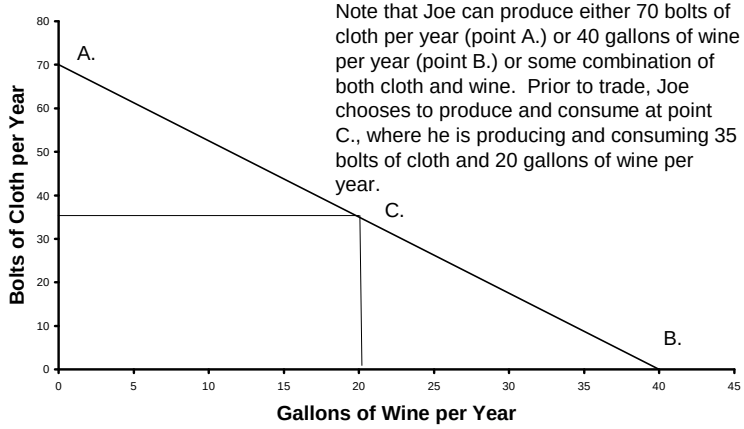
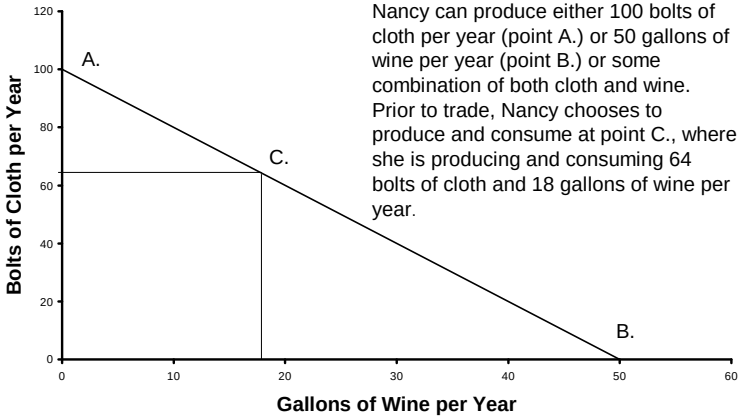


Illustration 18: Nancy's Production and Consumption before Trade



Nancy can produce either 100 bolts of cloth per year (point A.) or 50 gallons of wine per year (point B.) or some combination of both cloth and wine. Prior to trade, Nancy chooses to produce and consume at point C., where she is producing and consuming 64 bolts of cloth and 18 gallons of wine per year.

Illustration 19: Consumption before Trade

Consumption per Year

	Joe	**Nancy**
Bolts of Cloth	**35**	**64**
Gallons of Wine	**20**	**18**

Now let's assume that Joe and Nancy agree to trade. Joe will produce all wine (40 gallons) and trade to Nancy 19 gallons. Nancy will produce all cloth (100 bolts) and trade to Joe 35 bolts.

This will allow Joe to consume 35 bolts of cloth per year and 21 gallons of wine (40 produced minus 19 traded), an increase of one gallon per year over what he was able to consume before trade. Nancy will now be able to consume 65 bolts of cloth (100 produced minus 35 traded to Joe), an increase of one bolt per year, and 19 gallons of wine, an increase of one gallon per year.

Illustration 20: Consumption Before and After Trade

	Before Trade		**After Trade**	
	Joe	**Nancy**	**Joe**	**Nancy**
Bolts of Cloth	**35**	**64**	**35**	**65**
Gallons of Wine	**20**	**18**	**21**	**19**

Illustration 21: Joe's Consumption Before and After Trade

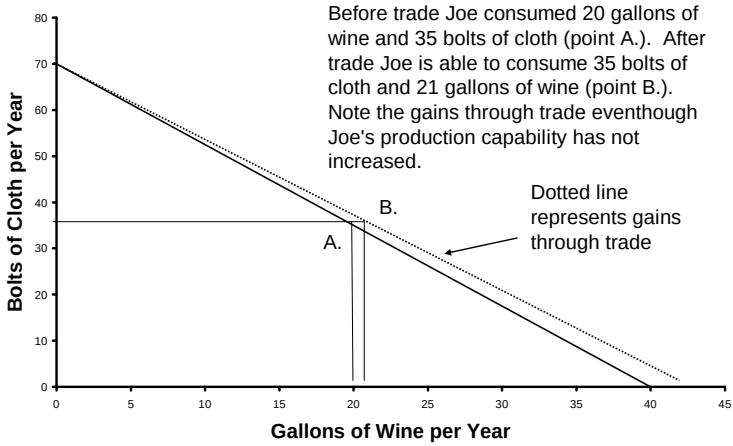
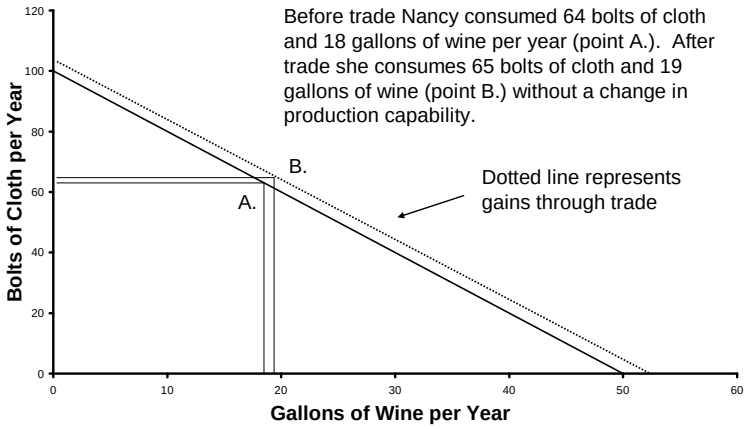


Illustration 22: Nancy's Consumption Before After Trade



Comparative advantage and trade show how trade increases wealth (in this case consumption capacity) even though the production of the traders does not increase and even if one trader is better at producing everything. This trade can be among individuals or between nations, and it can be for two products or many products. The same rule of comparative advantage and gains through trade applies to all trade; this a fundamental law of economics.

III. Production and Economic Growth

Measurement of the Economy

The income of a country is known as its Gross Domestic Product (GDP)[4]. GDP is a combination of the following:

Consumption (C) plus Investment (I) plus Government Spending (G) plus Exports minus Imports (X-M), or:

GDP = C + I + G + (X-M).

In the United States of America (USA) the GDP was $14.1 trillion in 2009:

Consumption (C):	$10.0 trillion
Investment (I):	$1.6 trillion
Government Spending (G):	$2.9 trillion
Exports minus Imports (X-M):	-$0.4 trillion
Total (Income, GDP):	$14.1 trillion[5]

[4] John Maynard Keynes in the *General Theory of Employment, Interest, and Money* (1936) is generally credited with being the first to outline how to measure the aggregated output of an economy.

[5] The USA economic data for GDP is from the Bureau of Economic Analysis (www.bea.gov).

Income per person

A common measurement of the wealth of a nation is the GDP per capita, also known as the income per person. This is the GDP divided by the number of people living in the country. In 2005 in the USA there were approximately 300 million people with a national income (GDP) of around $12.5 trillion.[6] This means that the income per person was approximately $42,000[7]. The income per person in Brazil (Latin America) was $8,400 in 2005, in Germany (Europe) it was $29,800, in Japan (Asia) it was $30,700, and in Senegal (Africa) it was $1,700. The world average income per person in 2005 was $9,300.

[6] In this section I am using 2005 data as it is more representative of income in the world after World War Two than more recent data. In 2009 for the first time since World War Two the world income decreased instead of increased due to the Great Recession caused by the collapse of the finance industry surrounding the US housing market in 2008. One of the additions to this edition of *Economics for Everyone* is an explanation for the Great Recession, which can be found in the Appendix.

[7] The GNP per capita data for all countries is from the Central Intelligence Agency (CIA) *The World Factbook* (www.cia.gov). The CIA uses Purchase Power Parity (PPP) to compare the per capita income of countries, "A nation's GDP at purchasing power parity (PPP) exchange rates is the sum value of all goods and services produced in the country valued at prices prevailing in the United States. This is the measure most economists prefer when looking at per-capita welfare and when comparing living conditions or use of resources across countries." (*The CIA World Factbook*, "Notes and Definitions").

Savings and Economic Growth

The higher the income (GDP) of a country the higher the income per person. If the population of a country is growing faster than the income this means that the income per person is going down. It is mostly agreed-upon by economists (and regular people too!) that it is best if a country has a growing income per person. In other words, economic growth means a country and its people are getting wealthier not poorer.

Our sample countries have the following GDP growth, population growth, and resulting income per person growth for 2005:

	% GDP Growth	% Population Growth	% Income per Person Growth[8]
Brazil	2.4	1.04	1.36
Germany	0.9	-0.02	0.92
Japan	2.4	0.02	2.38
Senegal	5.2	2.34	2.86
USA	3.5	0.91	2.59
World	4.4	1.14	3.26

[8] *The World Factbook* estimates for 2005. The income per capita growth rate equals the GDP growth rate minus the population growth rate. Calculations by the author from CIA data.

It is due to the income growth per person of China (8.61%) and India (5.52%), who have both large populations and high GDP growth rates, that the World economic growth for 2005 is higher than the examples of Brazil, Germany, Japan, Senegal, and the USA.

Economic growth is a relatively recent event. In the 19th century (1800 – 1899) the world economy grew by 300% (the world economy was three times as wealthy at the end of the century as it was at the beginning of the century). And the world economy grew by 1,000% (became 10 times as wealthy) in the 20th century (1900 – 1999)[9]. Economic growth, and income per person, is becoming increasingly larger when it is looked at in an historic perspective.

It is generally agreed that in order to have a growing economy a country must save some of its income. This savings is then used as investment to make the country more productive. This increase in productivity then helps to allow the country to grow its economy.

[9] The 19th and 20th century economic growth information is from *Cornucopia: The Pace of Economic Growth in the 20th Century* by J. Bradford DeLong and can be found at www.nber.org/papers/w7602.pdf.

This savings, investment and productivity relationship is shown by a simple story:

> There was a fisherman who caught and ate three fish per day. The fisherman then had the idea that if he used a fishing-net he could catch more than three fish per day. However, it would take two full days to make the net as the leaves he would be using would dry and would not be usable unless he finished in two days. So the fisherman decided to eat two fish per day instead of three fish and to save one fish per day for four days. At the end of four days he had four fish saved, enough to eat for the two days needed to make the net. After making the net, the fisherman found that he was able to catch five fish per day instead of just three[10].

This story shows the relationship between reducing consumption to increase savings (saving one fish per day by eating two instead of three fish per day), investing (taking the saved fish and investing them towards the time needed to finish the fishing net), and productivity (two days of work invested allowed the fisherman to increase his productivity from catching three fish per day to catching five fish per day). In order to save more a society needs to consume less. In order to have economic growth a society must save.

[10] This story is told by Professor Don Boudreaux, Chairman of the Economics Department at George Mason University (GMU) in Fairfax, VA USA in his economics courses.

Consumption versus Investment

Illustration 1 showed an economy that could produce guns or butter and showed that the cost of producing more guns meant producing less butter. The same logic applies to the income (GDP) of a country. A country can choose to use its GDP for investment or for consumption; the more that a country uses its income for investment the more quickly the country can grow its economy.

Illustration 23: Investment versus Consumption

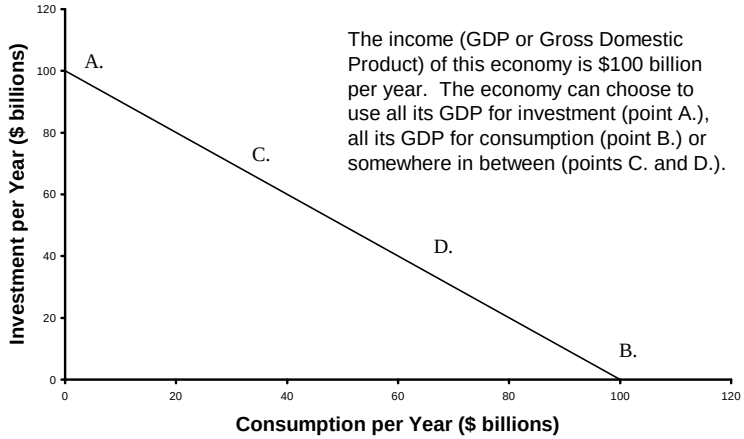
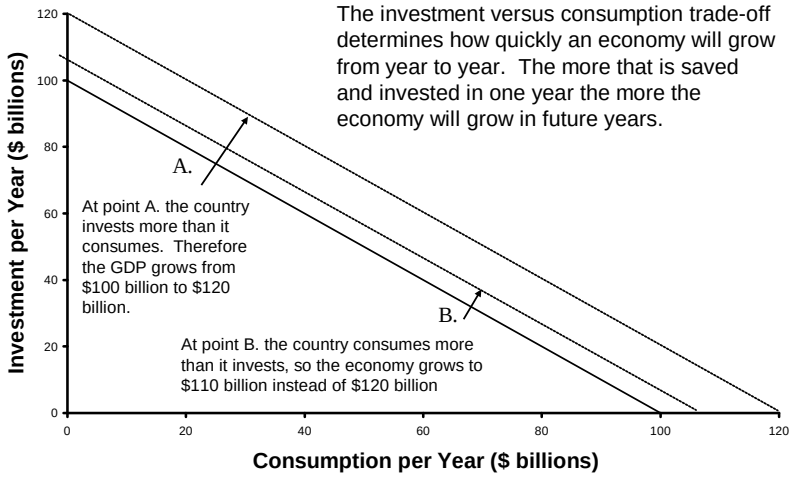


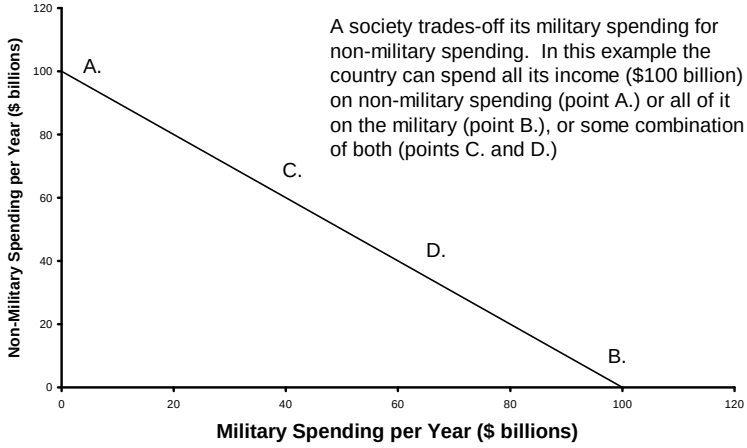
Illustration 24: Investment and Economic Growth



Other income trade-off considerations

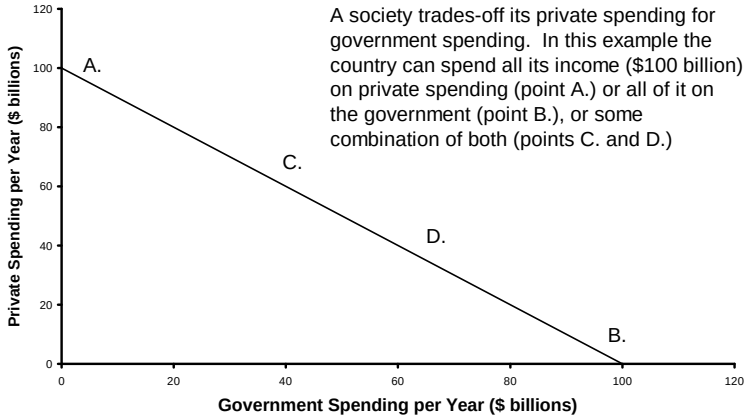
Income trade-offs can also be broken-down in other ways. For example a society can choose to use its income for military spending or for non-military spending or a combination of both.

Illustration 25: Military versus Non-Military Spending



In another example society can spend its income on government spending, private spending or some combination of both.

Illustration 26: Government Spending versus Private Spending

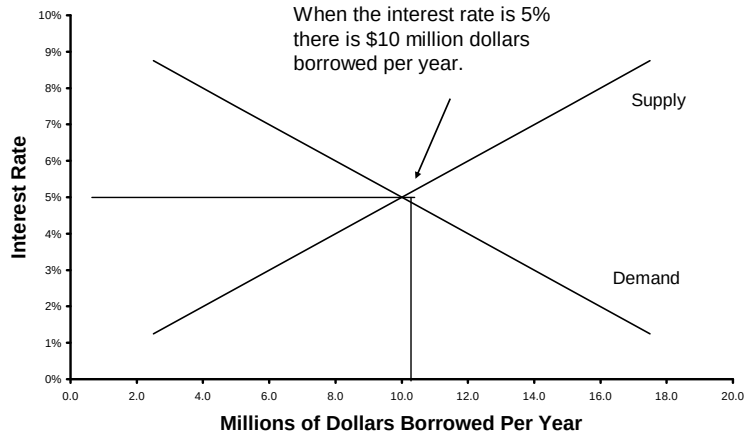


Supply and demand and the cost of investment

Supply and demand effects the cost of the capital (money, or, loanable funds) used for investment just as it affects the examples used above for the car market, the labor market, the housing market, etc.

The cost of capital available to be borrowed or lent is the interest rate. When loans are more expensive, investment is more expensive. For example say that it costs $100,000 to build a factory. If the interest rate is 5% it would cost $5,000 per year in interest to borrow enough money to build the factory ($100,000 times 5% equals $5,000). If the interest rate is 10% it would cost $10,000 in interest per year to build the factory. The law of supply and demand shows that the more expensive something is, the less will be demanded.

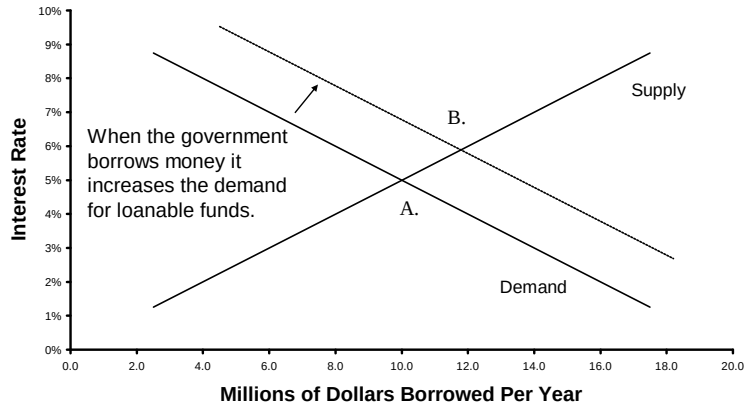
Illustration 27: The Market for Loans



When investment is more expensive there is less investment; when there is less investment the economy grows less quickly and the income per person grows less quickly. Therefore, it is better for society's economic growth when the interest rate is lower.

It was shown earlier that a society trades off its government spending for private spending. If the government spends more than it receives in taxes it has to borrow money to pay for its spending. This means that both the government and private investment are competing for loans. When the government increases the demand for loans by borrowing it increases the interest rate.

Illustration 28: The Market for Loans and Government Borrowing



When government increases the demand for money available for borrowing and lending it makes capital more expensive. In this example the interest rate goes from 5% (point A.) to 6% (point B.).

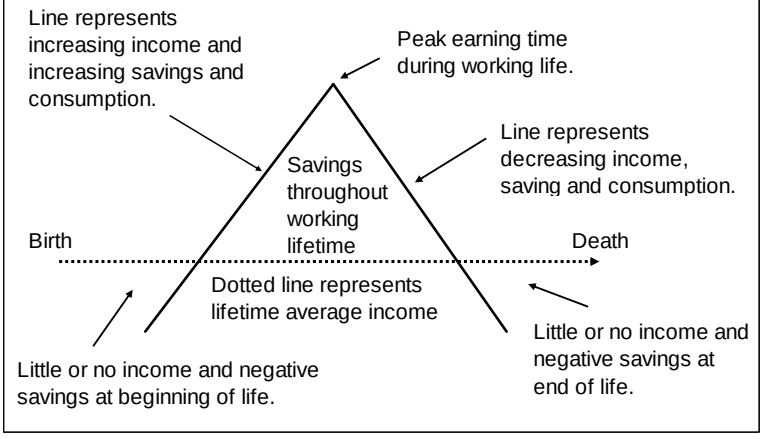
Personal income, consumption and investment

It is generally agreed by economists that most individuals have different levels of income, savings and consumption throughout their lifetimes.[11] Earlier in a person's life, when they are going to school and before they are working fulltime and have the experience necessary to earn a large income, they are consuming more than they are earning. This is known as negative savings or "dissavings."

Then in the middle of their lives when they are earning the most, people are both saving and spending more than they did earlier. Toward the end of their lives people start to earn less as they work less, their consumption also decreases, and they again start to have negative savings. This personal economic lifecycle is shown in Illustration 29.

[11] This type of economics, known as 'life-cycle' economics, was first made famous by Modigliani and Brumberg (1954) in "Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data" found in the book *Post-Keynesian Economics*.

Illustration 29: Personal Income, Consumption and Investment



V. The Economic Role for Government

This section is an overview of the economic role for government in society. As stated in Section II Supply and Demand, the study of economics asks how the scarce resources in a society are allocated, and how this allocation generally takes place through the law of supply and demand in the market. However in some cases supply and demand (the market) does not ensure the best use of society's scarce resources. It is in these cases that there is an economic role for government.

Market Failures

The first economic case for government is when all the costs of a transaction are not captured when supply and demand meet at a given price; this is called a "market failure." The most obvious example of this is when a consumer buys something produced by a factory and the factory emits pollution that affects the community around the factory. Generally the price of the good produced by the factory does not include the costs of those affected by the pollution. These pollution costs could be health costs through people made ill by the pollution or the displeasure caused by the unsightly smoke emitted by the factory.

In this case there could be an economic role for the government to put pollution abatement requirements on the factory or to tax the factory and then use the tax money to clean-up the pollution caused by the factory or to pay for the health costs of those made ill by the factory. In some cases the court system, not the government, can be used to capture the costs of a market failure, by assigning monetary penalties on polluters.

It should be noted that when the government taxes a factory (or when a court imposes a fine) for its pollution the tax costs can be passed on to the buyer of the good. This then increases the cost of the good and this is reflected in the supply price of the good in the market. This increased cost then means less of the good is demanded. This new higher price of the good is captured in the law of supply and demand and less of the good is traded due to the pollution costs.

This type of pollution abatement, where government sets pollution levels, either through taxing pollution or setting levels of pollution which it deems acceptable to society, is called "command and control" regulation.[12] This type of regulation is criticized by some economists as it is hard for government to know the optimal level of pollution in a changing and dynamic economy.

[12] "Command and control" comes from N. Gregory Mankiw's *Principles of Economics*.

Ronald Coase, who won the Nobel Prize in Economics in 1991, had a different idea for controlling certain types of market failures.[13] Coase's idea is that if those who harm others through their economic activity could directly compensate those who are harmed by this activity, then society would be better-off than if the government was to regulate the activity through "command and control". The parties affected by the economic activity would freely negotiate compensation for the external harm done, more fully capturing the subjective costs involved than under "command and control" regulation.

For example, let's say that there are two farms right next to each other. One farm grows flowers and the other grows grapes for wine-making. The pesticide that the flower-grower uses is very harmful for the grapes next door. Using Coase's idea, instead of the government preventing the use of the pesticide, the flower-grower and the grape-grower would negotiate before the flower-grower sprays the pesticide. The grape- and flower-growers would determine before-hand how much harm they think the pesticide would cause to the grapes, and then the flower-grower would compensate the grape-grower for the harm.

[13] Coase's "The Problem of Social Cost" (1960) in the *Journal of Law and Economics* is where he describes his idea for privately negotiating market failures, this concept has become known as the "Coase theorem".

In this way too, the flower-grower has an incentive to minimize the harm caused by the pesticide and would negotiate with the company spraying the pesticide to minimize the harm (the "externality"). In this example the "market transaction" is between the flower-grower and the pesticide sprayer, with the "market failure" being the harm which could be caused to the grape-grower. By negotiating before-hand, the market failure (the negative externality) is minimized. It is only if the flower-grower and the grape-grower can't come to an agreement, and if the flower-grower goes ahead and sprays the pesticide anyway, that there is a role for government. In this case, the grape-grower can bring a lawsuit in civil court against the flower-grower because the flower-grower violated the *property-rights* of the grape-grower.

It is generally agreed-upon by economists that there is a role for government in the protection of property-rights. The more well-defined property-rights are in a society the better the market works for allocating society's scarce resources without the inefficiencies of "command and control".

Public Goods

The next example of a role for government in the economy is when there is something known as a "public good." This is usually when something is shared in common by everyone in the society. The most obvious example of a public good is military defense. Everyone benefits from defense but it does not make sense, nor is it possible, to determine a supply and demand for military defense. In this case the government provides the defense for the common good and pays for the defense through taxes.

Economists generally agree on other types of public goods as well. These can include police, fire and emergency medical services and the court system to enforce contracts and copyrights, and can also include public works such as water and sewage systems, roads and urban mass-transportation.

Public goods are things that people can't be excluded from even if they don't pay (called non-excludability) and which are not used-up when they are consumed (called non-rivalrous). This makes trading these goods on the market almost impossible.

An Economic and paternalist perspective on the role of government in society

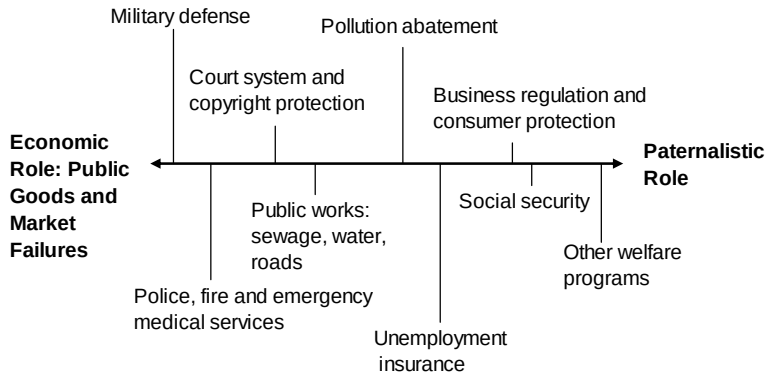
It is politics and not economics that determines what the role of government is in society. Economists only explain the *economic rationale* for a government role in society. The role of government in society can be looked at as a continuum with the economic role on one side of the scale and more paternalistic[14] roles for government moving along the other side of the scale.

It is the political process which determines where on the continuum a government operates at any one time and this can change as society changes. Some people believe that government's role in society should be limited to addressing market failures and public goods, and providing a rule of law. This type of thinking sees a more limited role for government in society.

[14] "Paternalism" here is used to mean people using government to protect them from their own actions, or as a substitute for acting in their own self-interest. Another word for a paternalistic government is the "welfare state". An example is social security or government-required retirement programs. This discourages people from acting in their own self-interest by saving for their future, because the government program does this for them. Another example is government consumer protection, when the government protects the consumer from his or her purchasing decisions the consumer may be less careful about their choices.

Other people believe that government should play a larger, more paternalistic role and that redistribution of wealth creates a more stable society. This scale of government intervention in society is shown in Illustration 30.

Illustration 30: An Economic and Paternalistic Perspective on the Role for Government in Society



VII. Appendix

Until now, this book has tried to present those economic concepts which are generally agreed-upon by the majority of economists. Of course not all economists agree on everything and there will be those who disagree with some of what has been presented above. But in general, most of the economic ideas presented so far are not controversial to most economists.

This Appendix deals with ideas that are not agreed-upon but are of equal importance to the ideas of opportunity cost, supply and demand, gains through trade, production and economic growth, income per person, savings and investment, and the economic role for government.

Unemployment and Inflation

The following section discusses an area where politics and economics intersect. This is one of the most important ideas of economics, one which is still being debated, and that is the question of *how does an economy produce enough to ensure that there is full employment and what should be done when there is not full employment?*

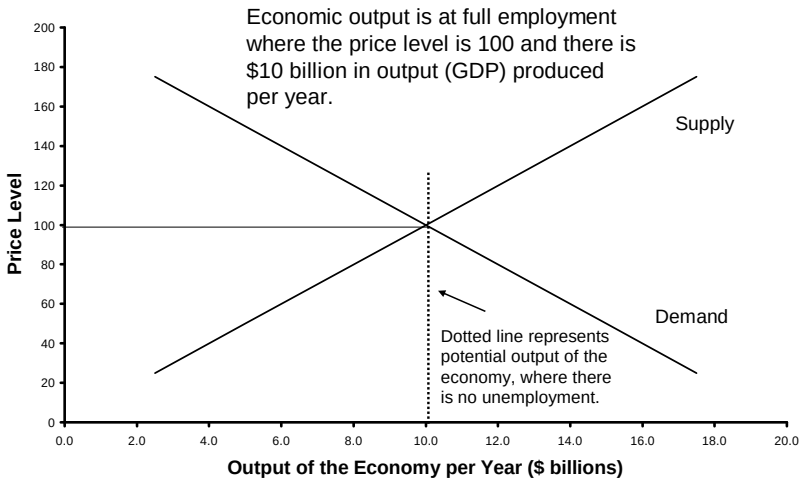
Economists generally agree as to what "full employment" means. This means that all who would want jobs have jobs. There are always those who are looking for better jobs, who are voluntarily unemployed while they are looking for better work. It is generally agreed that this "natural rate of unemployment" is around 5%.

The unemployment economists are concerned with occurs when an economy is not producing enough output to employ all those would like jobs. The unsettled debate in economics is what to do with the economy, if anything, to raise the output to a level to ensure that these types of unemployed workers find work they would like to have.

In Illustration 1 earlier in the book we show an economy that can produce all guns (10 guns) or all butter (100 pounds of butter) or can produce some combination of each by trading guns for butter (one gun for 10 pounds of butter) or butter for guns (10 pounds of butter for one gun). An economy can produce at this level, known as its "potential output," when all the resources of the economy are put to use. A society's resources include land, labor and capital, and entrepreneurship and management skills.

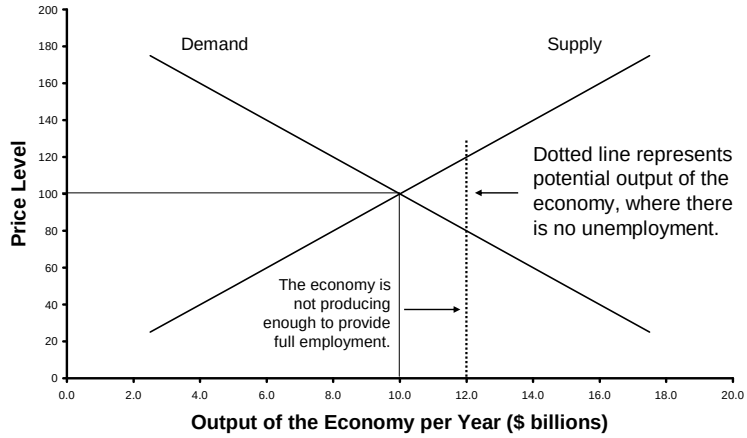
When all the resources in a society are being used supply and demand can meet at the potential output of the society. In other words, supply and demand can create an economy where there is full employment at a certain price level.

Illustration 31: Economy Producing at Full Employment



However, sometimes an economy can be producing at less than full employment. Economists do not all fully agree why this occurs or what to do about it. As shown in Illustrations 6 and 7 earlier in the book political interventions like minimum wage laws can create unemployment but economists do not agree as to whether or not this can have economy-wide effects creating large levels of unemployment. The following shows an economy producing at less than full employment.

Illustration 32: Economy Producing at Less than Full Employment

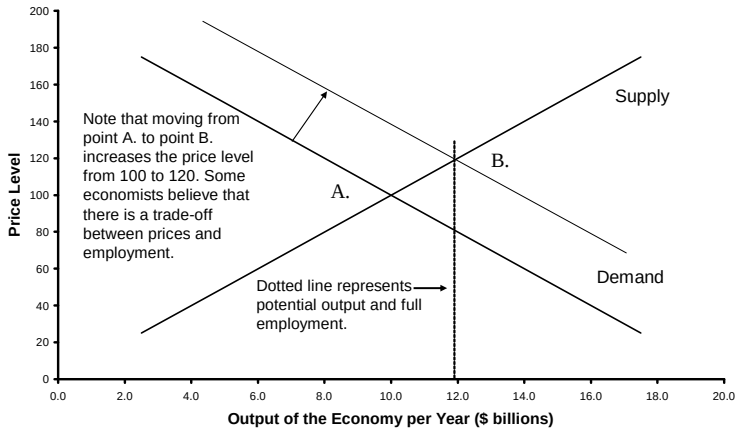


The graph shows a society's economic output at less than full employment. Society is producing at a price level of 100 and there is $10 billion in output (GDP) produced per year. However, the full employment level of output is $12 billion. The economy is not producing enough to give everyone jobs who would like them.

Keynesian economics

Economists disagree about what to do when the economy is not producing enough to create full employment. One school of thought, usually known as the "Keynesians" after John Maynard Keynes, who most famously wrote about economics at the time of the Great Depression in the 1930s, says that government needs to step in and spend more to increase demand to the point where there is full employment.

Illustration 33: "Keynesian" Government Spending to Increase Demand When Economy Producing at Less than Full Employment



Keynes said that government should spend more to increase the demand, which moves the economy from point A., less than full employment, to point B. full employment.

Note that this increase in demand also increases the price level. Some economists believe that there is a trade-off between prices and employment. In other words, some economists believe that in order for employment to go up prices must go up. When the prices of everything, not just some things, go up this is known as inflation. Many economists believe that one problem with high rates of inflation is that inflation makes the interest rate go up. As described earlier when the cost of money is more expensive there is less investment, and investment is necessary for economic growth.

Classical economics

Other economists do not agree with Keynes that government should step-in to increase spending and demand. These economists are known as monetarists, classical or neo-classical economists, and supply-side economists. These economists disagree with Keynes for two main reasons. First, they say that an increase in government spending, especially when government borrows money to spend, increases the interest rate. This is shown in Illustration 28.

Secondly, those disagreeing with Keynes say that the timing of government spending to increase employment cannot be timed right. This is called "lag time." It takes times to know when there is unemployment and how much unemployment there is and how much government spending is needed to increase demand enough to remove the unemployment. Then there is lag time due to the congressional action required to allow the government to spend, then the lag time due to the government actually spending the money.

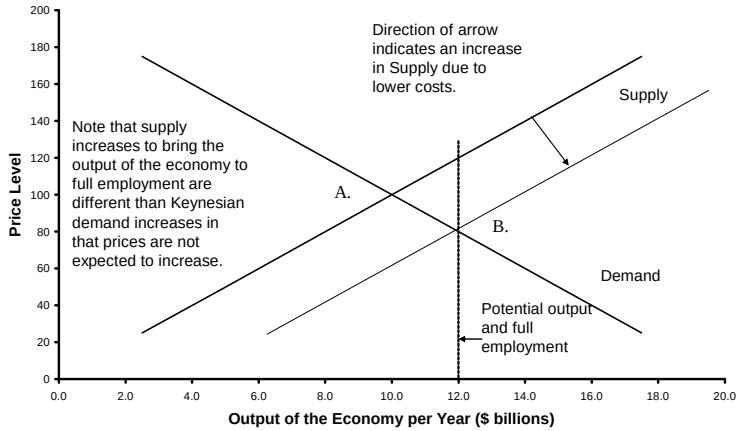
According to the classical and neo-classical economists (the economists before and after Keynes) the economy will have self-corrected to full employment due to the law of supply and demand before Keynesian government spending takes effect due to the lag times. In addition these economists believe that once government increases spending it is difficult for government spending to decrease, due to both lag time and political reasons, when the spending is no longer needed to create full employment.

Supply-Side economics

Supply-side economists say that an increase in supply is better for the economy than an increase in demand because it does not raise prices and does not increase the size of government. The supply-side economists believe that government should allow the law of supply and demand to take effect to allow the economy to produce at its potential through increasing free-trade (by removing trade barriers such as quotas and tariffs), minimizing government regulation (through deregulation of industry and privatization of government-owned businesses) and decreasing taxes.

These supply-side actions then reduce producer (supplier) manufacturing and production costs, and therefore reduce market prices. These lower prices then increase the quantity demanded, economic output and employment.

Illustration 34: Supply-Side Action When Economy Producing at Less than Full Employment



Supply-side economists believe that lower taxes, deregulation and free-trade will decrease producer prices, bringing an increase in supply. This increases quantity demanded and moves the economy from point A., less than full employment, to point B. full employment.

The Keynesians argue that supply-side cost decreases are not fully effective because employees are not willing to accept lower wages. Therefore although other supplier costs are reduced under supply-side economics, wage cost decreases may not be great enough to bring full employment. Employers may not be not willing to hire (demand) more workers at the same wage rates even if other costs have gone down.

Economists opposed to supply-side economics also do not like the budget deficits and government borrowing that tax-cuts may bring.

However, it is debated as to how much cutting taxes decreases government income and therefore the need for government to borrow. Supply-side economists believe that tax cuts can increase government income because lower tax rates can encourage more tax-paying economic activity and reduce tax avoidance. The economic policies of the Ronald Reagan administration in the 1980s in the USA are the most well-known example of supply-side economics, although the Reagan administration dramatically increased military expenditures so the government continued to run deficits.

The disagreement between demand-side (Keynesian) economists and supply-side economists is on-going because, with lag time effects for both policies, it is hard to prove who is more correct.

Neo-Classical economics

Classical economists - the most recognized original economist was Adam Smith who wrote in England around the time of the American Revolution (1776) - argued for a limited role for government in the economy (the protection of property rights and public education) and stated that this was how nations became wealthy.

Smith and others, who were known as moral philosophers in addition to economists, argued against the idea that governments should gather wealth in their government banks by prioritizing exports over imports and holding-down local living standards (known as economic mercantilism) and that wealth is created by individuals trading with each other free of government intervention. Some neo-classical economists re-invigorated this non-interventionist thought after the time of Keynes.

Monetarist economics

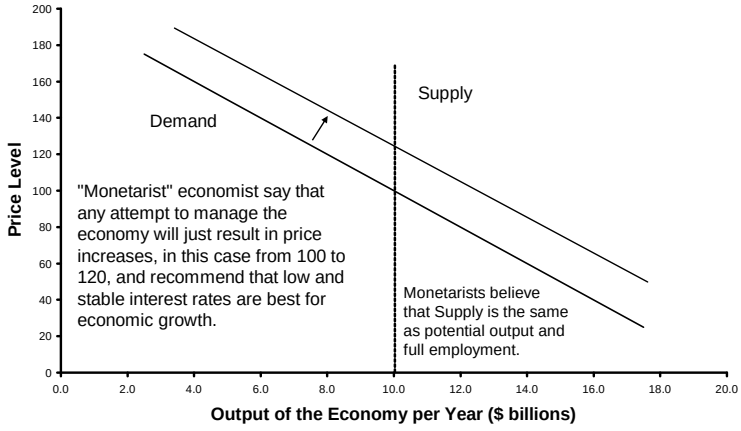
The monetarist economists have a different take on the economy altogether and say that the economy is producing at its potential output and full-employment and that any attempt to change the economy by using Keynesian expansionist monetary policy only effects the prices in the economy not the actual output or employment level of the economy. Milton Freidman is the most well-known monetarist[15].

Monetarists say that the main role of the central bank, which attempts to control the cost of capital, is to keep prices low and steady as this creates a sound investment environment and thus economic growth. They say that any increase in prices will not increase employment because society has already accounted for expected price increases in their economic decisions.

[15] It is generally thought that the *Monetary History of the United States* (1963) by Milton Friedman and Anna Schwartz was the founding text on monetary economics.

Like the classical and neo-classical economists, and unlike the Keynesians, monetarists see a limited role for government in the economy.

Illustration 35: Overview of "Monetarist" Economics



Economic Fluctuations and Recession

Just as economists do not agree what the government should do, if anything, when there is unemployment, there are differing views as to what causes unemployment in the first place. As this new edition of *Economics for Everyone* is being written (late 2010) we are facing what is known as the Great Recession, where for first time since the Great Depression in the 1930s the world has experienced negative economic growth (in 2009), and, in the United States, unemployment has been greater than 9% for over two years, far above the "natural rate" of 5%.[16]

In the last section we learned that Keynesian economists believe that this prolonged unemployment is due to inadequate Aggregate Demand, however some economists believe that the Keynesians do not have an explanation for why the economy gets out of equilibrium in the first place causing prolonged unemployment as in today's Great Recession. It is for this reason that there has been a recent resurgence of interest in the Austrian School of Economics explanation for the business cycle, an explanation which helps describe why prolonged unemployment starts to occur in an economy.

[16] From www.cia.gov, *The World Factbook*, and bls.gov.

The Austrian School ideas are not in any way accepted by most economists, however, in that the "Austrians" do offer an explanation for the Great Recession these ideas are included in this edition of *Economics for Everyone*.

The most renowned Austrian School economist is Friedrich von Hayek who shared the Nobel Prize in Economics in 1974. Hayek won the Nobel Prize for his work in showing the relationship between money, the social and political institutions in a society, and economic fluctuations. In this section we will present a summary of this "Austrian" explanation of business cycles in general and then use it to explain the Great Recession. [17]

The interest rate as a price signal

In the chapter on Supply and Demand we presented the importance of price as the signal which coordinates the efficient allocation of scarce resources in a society. The interest rate also acts as a price signal for determining how, where and when investment is made in society. The interest rate is usually influenced by the central bank in a country.

[17] The founding text of the Austrian School explanation for business cycles is Ludwig von Mises's *The Theory of Money and Credit* (1912).

When the central bank changes its interest-rate policy this then sends differing price signals to economic actors in an economy. When the interest rate is low, investors have a price signal encouraging them to make longer-term investments because they can wait longer before they are paid back for their investment (this idea was presented earlier in the Production and Economic Growth chapter).

However, just as wages are "sticky" and not instantaneously (immediately) adjustable, the same thing goes for investment. It takes time to undo an investment and find another place to invest, just as it takes time find a job or to hire someone. This is even more true for investment because some investments are expected to take years before they are paid back, whereas most people with jobs are paid every two weeks or even more often than that. Investment in longer-term assets is more 'sticky' than is employment.

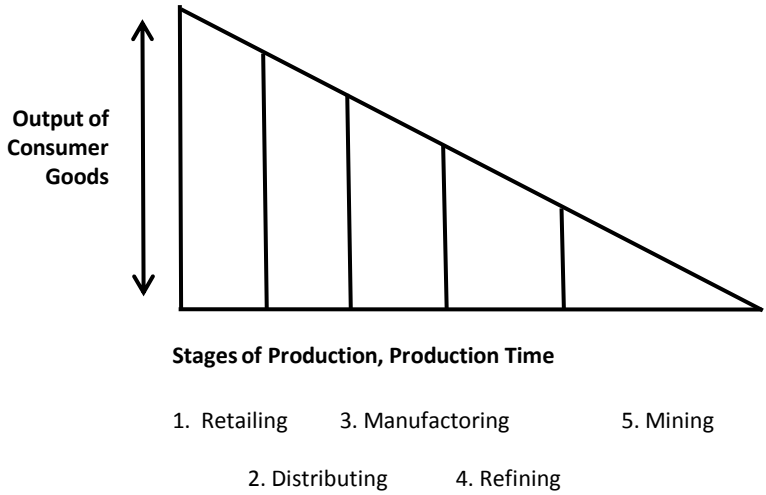
This is why during times of economic recession (decreasing economic growth and/or increasing unemployment) you often see unfinished houses, apartment buildings, factories, and shopping malls and an increase in inventories of durable goods (things like cars and kitchen appliances). The production of these economic goods takes a relatively long time and so when the economy turns bad, investors are stuck with these 'sticky' investments.[18]

In society then with differing investments made at differing times with differing expected pay-back times, every society develops its own unique *capital structure*, with the longer investments being the most sticky. Also, as we learned in the Production and Economic Growth chapter (see Illustration 22), at any given point in a time a society trades-off investment with consumption. We can then visualize this capital structure and its relation to consumption, as shown in Illustration 36.[19]

[18] Oliver E. Williamson who shared the Nobel Prize in Economics in 2009 calls these sticky investments "asset specificity".

[19] The first illustrative use of capital structure and consumption was Hayek in *Prices and Production* (1931), which has been built-upon by Roger Garrison especially in *Time and Money* (2006).

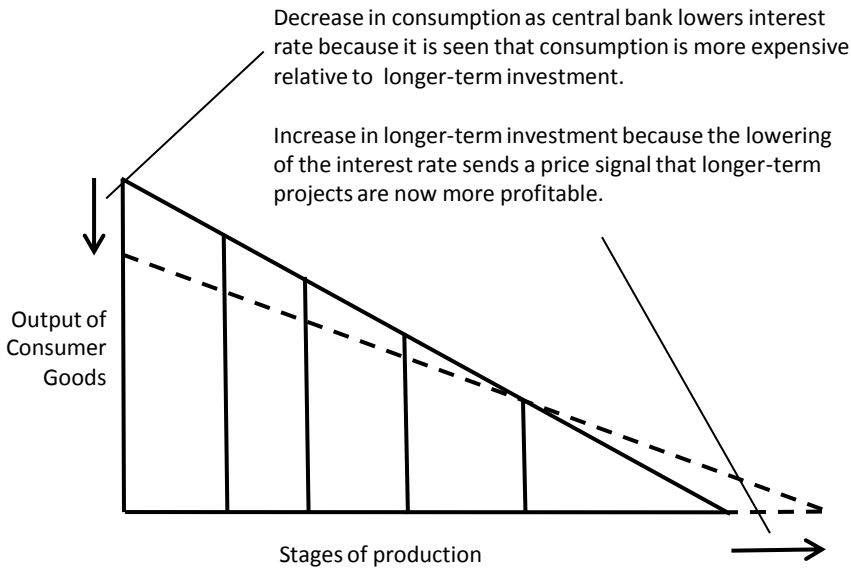
Illustration 36: Capital Structure in a Economy



From the left to the right we see that a society's capital structure is broken-down into "stages of production" and the further to the right we go the longer in time to takes to pay back the investment. For example mining (stage of production number 5.) requires heavy investment and might require 30 years to pay pack, while a manufacturing plant might takes 10 years to pay back, and retailing pays back several times year, but not at a very high profit rate. The miner sells their product (an intermediate good) to the refiner, the refiner to the manufacturer, etc., until the retailer sells the final good to the consumer.

Illustration 36 shows the capital structure and consumption in a society at a given point in time. Then when the central bank lowers the interest rate, this sends a price signal to society to trade-off consumption for longer-term investment because, due to the lower interest rate, the price signal for longer investment seems to decrease relative to the price of consumption goods. This lowering of the interest rate and the result on consumption and investment can be seen below.

Illustration 37: Change in Capital Structure and Consumption when the Central Bank Lowers the Interest Rate



We have seen that when the central bank *decreases* the interest rate (usually in an attempt to encourage investment in order to encourage employment) this creates more longer-term investment than would have occurred if the central bank would have left the interest rate alone. Then when the central bank *increases* the interest rate (usually to prevent the inflation caused by the lowering of the interest rate or from increasing the money supply) this longer-term investment is no longer profitable because the interest rate has increased and therefore only those projects which pay-back more quickly are now profitable.

However as we have learned, investment is "sticky". The economy is stuck with these longer term projects (called "malinvestment" in Austrian School terminology) because investors can't immediately move their money (their investment capital) from the longer- term projects into shorter-term projects. The first thing that happens is that the investors have to fire the people they have hired to build the longer-term projects that they would not have started had not the central bank lowered the interest rate in the first place. This of course causes increased unemployment in the economy.

The reason for recession

In order for the economy to adjust to full-employment again (actually to the "natural rate" of unemployment), prices need to adjust to the new, higher, interest rate. In order for this to happen there needs to be price flexibility, the "price signal" needs to be able to adjust in order to reallocate society's scarce resources. This price adjustment is especially important in the longer-term stages of production which experienced over-investment when the interest rate was lowered.

The price of the longer-term assets needs to be able to decrease in order to liquidate the over-investment. If these prices are not able to decrease, then society's resources are 'stuck' in these longer-term, unprofitable, investments and therefore unemployment is prolonged because investment resources are not able to move from longer-term to shorter-term projects. Because if investment is not able to be made, then business owners are not able to hire people. The more quickly that prices are able to adjust the more quickly that unemployment can decrease. If prices are not able to adjust quickly, this in turn means that unemployment will remain high for longer periods of time.

Usually, because it is seen in orthodox economic theory and by politicians that falling prices are bad for the economy, it is oftentimes government programs, including Keynesian economic stimulus programs and certain social programs, including unemployment insurance and policies which encourage unionization and inflexible wages, which prevent prices from adjusting downwards (this includes of course people's unwillingness to accept lower wages, the price for labor, even when prices should be falling). And again, it is flexible prices - interest rates for capital, prices for real goods and wages for labor – which are needed for the economy to adjust back to a "natural rate" of unemployment.

The length of a recession is directly related to how quickly prices can adjust, this is called "factor mobility". Most economists agree that the more mobile (flexible) the factors of production (land, labor and capital) are in an economy the more quickly an economy can adjust to limit the downward portion of the business cycle. [20]

[20] Hayek in his "Use of Knowledge in Society" (1945) in the *American Economic Review* stresses the importance of the price signal in organizing societal order, and highlights the crises which can occur if the price signal is not allowed to work.

An Explanation for the Great Recession

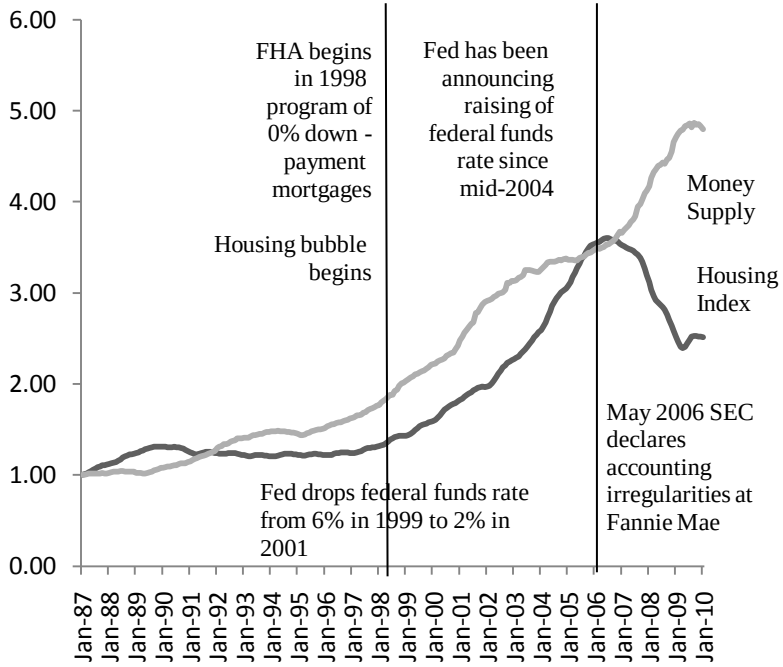
The Great Recession is explainable by the Austrian School ideas presented above in that there are both monetary price signal reasons and institutional reasons which both caused the housing boom and have prevented recovery from the financial crash caused by the over-investment in housing in the United States.

The bubble

A time-line for the events leading up to the Great Recession is found in Illustration 38. In 2000 and 2001 there was a recession in the United States. In order to attempt to get the US out of this recession the central bank decreased interest rates (the federal funds rate) from 6% to 2%. At the same time the central bank encouraged an increase in the quantity of money in the economy, eventually affecting an increase of over 300% in the money supply by the time of the housing market crash. From Illustration 38 you can see how closely the increase in the money supply is related to the increase in housing prices until the crash.[21]

[21] The Case-Shiller "Composite 10" index is used to measure the housing market in the US. The Money Supply measure is "MZM" as reported by the Federal Reserve.

Illustration 38: Timeline of the Housing Boom and Crash in the United States Leading to the Great Recession



Coinciding with these money supply increases was a change in the Federal Housing Administration's policy for encouraging people to buy houses. The FHA declared that they would like half of the homes bought in America purchased with no money down, and encouraged mortgage lenders to meet this goal. This of course encouraged people who wouldn't normally have been able to afford

houses, people who were not yet ready in their economic life-cycles (see the Production and Economic Growth chapter), to buy homes, thus these home purchases were "malinvestment" in Austrian School of Economics terms. The lower interest rates, the increase in the money supply and the FHA policy increased the demand for houses, and housing mortgages, triggering the housing bubble.

At the same time during the bubble period, the liability limits on Fannie Mae (Fan) and Freddie Mac (Fred) were removed by Congress. Fan and Fred are government-sponsored enterprises (GSEs) who guarantee bonds that are backed (collateralized) by home mortgages. Banks, insurance companies, and other financial institutions package mortgages into bonds, and then sell these bonds, which are guaranteed by Fan and Fred, and thus seen to be backed by the US government, to each other, generating fees and profits each time they repackage a bond or other debt-based derivative and sell it onward. This in turn created more demand for mortgages and again encouraged mortgage lenders to finance houses for people not yet ready to buy them.

This debt-creation is also encouraged by the US Tax Code because interest on debt is a pre-tax write-off on income tax, whereas as equity is taxed twice (first, because dividend payments by corporations are made *after* taxes are paid, and second, because dividends are taxed on personal income taxes). The special tax treatment for debt creates market incentives for debt-backed financial bubbles such as the housing boom.

There were two more institutional incentives for the housing finance bubble. The first was that enforcement of the Community Reinvestment Act (CRA) was stepped-up in 2005. The CRA requires that a certain percentage of a financial institution's lending activity (including housing mortgages) take place in areas deemed underdeveloped by the US government. This of course again meant those that were not yet ready to buy homes were encouraged, again, to do so.

The other major institutional change was new international banking standards, known as Basel II, which said in 2004 that banks could hold less reserves (and thus make more profit) against assets that were guaranteed by GSEs. This meant that banks throughout the world held US government-guaranteed mortgage-backed bonds, bonds that, during the housing bubble, became worth many times more than the underlying value of the

original mortgages for housing in the US.[22] This is why, after the housing crash, the financial crisis became one of global proportion.

The crash

Of course it is not clear *exactly* what caused the housing bubble to burst due to the many complex factors involved. Illustration 38 shows two potential reasons. The first is that the central bank started to raise interest rates and decrease its growth in the money supply in 2004, this meant that people's time-preference for investment started to change from longer-term investments (mortgages are typically for 30 years) to shorter-term investments.

The second is that in May 2006 the Security and Exchange Commission (SEC) declared that the finances of Fannie Mae were unauditable, that auditors could not verify the financial condition of Fannie Mae. Since much of the financial bubble was caused by bonds that were backed by Fan, this might have been the trigger that caused the crisis.[23]

[22] Thus Basel II created what is known as 'systemic risk' because all banks internationally were encouraged by policy to act the same way instead of evaluating their own risks locally.

[23] Ass was discussed in the first section of this Appendix, it is difficult to know *exactly* which policy creates a "shock" due to the lag-times between policy changes and economic behavior changes. For the Great Recession it was obviously a combination of many factors.

We can see in Illustration 38 that this accounting problem with Fan is around the time that housing prices started to collapse, and that money supply growth became decoupled from housing prices, meaning that interest rate signals became decoupled from real economic activity.

The decrease in housing values meant that the underlying mortgage-backed bonds became worth less and less. However the banks and other financial institutions did not want to trade these bonds at their devalued prices, they did not want to take the loss on their financial statements. So, they stopped trading the bonds and other financial derivatives based on the mortgages and the financial markets "froze" in late-Summer 2007.

Again, institutional reasons might explain the freezing of the markets. In the first place, perhaps the financial institutions knew that they didn't have to trade the assets and thus liquidate the over-investment in mortgage-backed assets at a loss because they knew they would be bailed-out by their corresponding government regulatory agencies (this is of course what did eventually happen).

Perhaps too the bond-holders were waiting for a clear signal as to what Fan and Fred's policies would be to cover the losses on the bonds. However the underlying derivatives were so complicated that no clear policy was possible, especially policies expected from institutions (Fan and Fred) that had no clear indication of their own value.

The recession

The reason then for the prolonged unemployment in the USA is that instead of allowing the over-investment in housing-based assets to liquidate (decrease in value) the bailouts prevented this necessary liquidation. Housing prices did of course decrease, but not as much as they should have to liquidate (free-up) the over-investment in housing an enable this money to be put to more productive, employment-creating, uses. In 2009 the government created the Making Home Affordable Act, which instead of letting the values of homes adjust downward, continued to encourage people to hold-on to homes they still could not afford.

This continued encouragement of unaffordable homes has put factor mobility constraints on the labor market, as people are not able to move freely to where jobs are because they are tied to their

homes both financially and geographically.[24] In addition, Fan, Fred, and FHA policies have not been changed, again encouraging malinvestment in housing instead of letting housing prices drop and society's assets to reallocate themselves to more productive uses, again prolonging above average unemployment.

Also instead of allowing the market to reallocate scarce resources after the financial crisis, the government passed the American Reinvestment and Recovery Act of 2009 (the "stimulus") which means that there are allocative inefficiencies in the economy, because the government, and not the market, is deciding where investment should be made.[25] The increased government debt needed to pay for this stimulus again sends bad price signals (the promise of more taxes on entrepreneurial profit on long-term projects) to investors in the economy and therefore people invest in commodities, like gold, and risk-free assets, like government bonds, instead of investment which creates employment. Plus stimulus spending

[24] Also, unemployment insurance has been continually extended during the Great Recession decreasing the incentives for the unemployed to find new jobs at the necessary lower wages.

[25] The "distributional effects" of fiscal stimulus is that this policy distributes resources *to* people who receive stimulus spending and takes resources *from* people that do not receive stimulus spending.

creates what is called "regime uncertainty"[26] because investors face uncertainty in the investment climate as they wait for government to decide how the stimulus monies will be distributed.

Anne Krueger described how in the welfare state there can be many market distortions caused by government intervention in the markets and how then eventually this might cause markets to stop functioning.[27] This is the case with the Great Recession. Krueger also describes how then a crisis caused by this intervention is seen by most people as a crisis caused *by* the market instead of being caused by the interventions *into* the market.

Then, additional regulations are proposed that do not address the original problems caused by the original interventions. This is the exact situation under the Great Recession where new financial rules have not addressed the Fan, Fred and FHA distortions, nor the debt-creating incentives of the tax code, nor the systemic risk of international

[26] The concept of "regime uncertainty" is credited to economic historian Robert Higgs. Another factor which has contributed to investment climate uncertainty is the government restructuring of General Motors in 2009 which prioritized the United Auto Workers labor union over the rights of the GM bond-holders. Not allowing an established rule-of-law to play itself out during a bankruptcy causes a problem for investors and thus adds to regime uncertainty.

[27] Anne O. Krueger, "The Political Economy of the Rent-Seeking Society" (1974) in the *American Economic Review.*

banking standards which encourage building derivatives based on government-backed assets. New regulations are also a source of "regime uncertainty" and provide friction in factor mobility.

The central bank response to the financial market collapse, of holding interest rates near zero for a prolonged period of time, also discourages productive investment because people have no need to "economize" with their funds. Economic actors can borrow money at very low rates and therefore don't have to invest in more risky long-term investment to make a return on their assets.

When the market stops functioning due to regime uncertainty (an uncertain future investment climate) investors no longer see the low interest rates as price signals to invest in longer-term projects and therefore just invest in less-risky, non-employment-creating, assets like gold and government bonds and the bonds of very safe "blue-chip" companies. In essence as stated earlier the money supply becomes decoupled from real productive economic activity. The Austrian School explanation of economic fluctuations based on malinvestment assumes a functioning market, something which is absent under the Great Recession due to continued interventions.

In addition, banks themselves don't have the incentive to loan to productive, employment-creating businesses because it costs the banks more to evaluate these types of projects than it does to just invest in less-risky assets. Because the banks can get funds from the central bank at such low rates of interest, and can only earn low rates of interest on the funds they lend, banks are not lending to riskier long-term employment-creating projects during the Great Recession.[28]

In summary, there is no long-term, employment-creating, investment during the Great Recession because of monetary and institutional impediments to the market allocation of society's scarce economic resources.

[28] Tarron Khemraj calls this counter-incentive to productive investment faced by banks, and caused by central bank-created low interest rates, 'excess liquidity', see "Excess Liquidity, Oligopoly Banking and Monetary Policy in a Small Open Economy", PhD Dissertation (2006), New School for Social Research, NY.

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