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ECON 201—Montgomery College

**Lecture 02: Supply, Demand, and Exchange Rates**

1. A trading game
2. Demand
	1. The neoclassical framework leads us nicely to the notion of equilibrium—the point at which no one can be better off by changing his or her behavior.
		1. This is notably similar to the notion that people act until marginal cost = marginal benefit.

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8

Price

Q

1st

2nd

3rd

4th

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6th

7th

8th

9th

10th

11th

12th

* 1. An important term in this analysis is *reservation price*—the maximum someone is willing to pay for something. It is essentially the same as a person’s marginal benefit of something.
	2. Recall from last time when we explored marginal benefit. We can summarize a person’s marginal utilities (reservation price) for oranges with a diagram.

Price

Quantity

Demand

* 1. Now, instead of focusing on one person, consider *everyone* in the whole of a market, such as the market for socks or chicken. As each person’s marginal utility fills the graph, the marginal benefits resemble a line. This is the demand curve.
	2. Note how this diagram makes intuitive sense. As the price of something moves in one direction, the quantity people demand will move in the opposite direction. This is called the *Law of Demand*.
1. Supply

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Price

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1st

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3rd

4th

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* 1. Same goes with MC.

Price

Quantity

Supply

* 1. And once again we can expand our thinking to the whole a market with all the sellers. Like our previous example, we come up with a smooth line but this time of marginal costs. Economists call this the supply curve.
	2. Note how this diagram also makes intuitive sense. As the price of something changes in one direction, the amount people will supply will move in that same direction. This is called the *Law of Supply*.
1. Equilibrium
	1. Not surprisingly, the supply and demand curves can be combined into a single diagram. This diagram is perhaps the most important and insight in all of economics. It forms the foundation of much of economic thinking.

Price

Q

Supply

Demand

**P\***

**Q\***

* 1. Remember that because supply and demand curves also double as marginal cost and marginal benefit curves, the same rules apply: people consume until marginal cost equals marginal benefit. Thus we achieve an equilibrium where **P\*** is the equilibrium price and **Q\*** is the equilibrium quantity.
	2. Note that the equilibrium price is the market price, the price that people cannot deviate from nor influence.
1. Understanding the shifts of a curve.
	1. Recall that the supply curve is a bunch of marginal costs and the demand curve is a bunch of marginal benefits.
	2. As the worlds changes, these costs and benefits change as well. A *curve* will shift, causing a movement along the *other* curve.
	3. This is perhaps the most interesting use of supply and demand analysis. While the diagram illustrates a simple world where the only things that matter are supply, demand, price, and quantity, we can simulate changes in the market by shifting the supply or the demand curve to the left or to the right. For example, suppose a hurricane came through and destroyed all the factories for making books. How does this affect the market for making books?

Price

Quantity

**P\*’**

S’

**Q\*’**

**P\***

S

D

**Q\***

* + 1. The grounding assumption in this sort of analysis is *ceteris paribus*, Latin for “all other things being equal.” In other words, we do not consider how the market will react to this shock beyond the most immediate response. Because the economy is so complex, the analysis has to be done bit by bit. How does this *one change* affect this *one part* of the economy?
		2. Note that the supply of books shifted to the left and, to achieve the new equilibrium, there was an instantaneous movement *along* the demand curve.
	1. Another way to think about shifts is that ceteris paribus assumption:
		1. The same amount of books will cost more to produce.
		2. The same price of books will result in fewer books produced.
	2. Determining which way which curve shifts can be difficult for new students of supply and demand analysis. The best way to figure it out is to first note that any shift will result in one of four results:
		1. The price will increase and the quantity will decrease.
		2. The price will increase and the quantity will increase.
		3. The price will decrease and the quantity will decrease.
		4. The price will decrease and the quantity will increase.
	3. Then ask yourself which outcome seems most appropriate for the change that occurs. Each possibility corresponds to one and only one scenario: supply to the left (i); demand to the right (ii); demand to the left (iii); and supply to the right (iv).
1. Demand shifters
	1. Income
		1. *Normal good*—income and demand move in the same direction
		2. *Inferior* *good*—income and demand move in the opposite direction
	2. Population of consumers
	3. Price of *substitutes*—two goods consumed instead of one another
	4. Price of *complements*—two goods consumed together
	5. Expectations
	6. Tastes
2. Supply shifters
	1. Technology
	2. Input prices
	3. Expectations
	4. Population of producers (entry and exit)
	5. Opportunity cost
3. Applications
	1. The market for oil after…? (Why has the price increased?)
	2. The market for clothes after the season ends
	3. The market for sex after the invention of the condom
4. Exchange rates
	1. Think of a currency as the right to participate in a country’s economy.
		1. A strong currency is high relative to others. Thus its exports are relatively more expensive. At the same time, the strong currency tends to attract foreign investment.
		2. A weak currency is low relative to others. Thus it tends to be less attractive to foreign investors. At the same time, its exports are relatively less expensive.
	2. When a currency becomes stronger, it *appreciates*. When it becomes weaker, it *depreciates*.
5. Purchasing Power Parity
	1. Simply knowing how much of one currency you can get for another doesn’t tell you the full story. You must ask what you can buy.
		1. For example, until recently[[1]](#footnote-1) 60 US cents would get you 1,000,000 Turkish lira. Sounds like a lot until you realize that much lira would buy you one ferry ride across the Bosporus.
	2. The purchasing power parity (PPP) is one reason why exchange rates are as they are. *Because* it took a million lira to cross the Bosporus, the lira was cheap on the international market.
	3. Another way to judge how much a currency can buy is the Big Mac Index, a form of the PPP.
		1. The PPP is calculated using the price of a common basket of goods in each country. However, quality of goods changes from country to country, biasing the index.
6. Floating Exchange Rate Regime
	1. In a floating exchange rate regime, market forces determine how rates are priced. Since there’s little to it beyond that, but since the market’s doing all the work, it seems like a good time to overview how various market forces change the rate.
		1. Because we will be focusing on changes in the short run, the analysis of E will be rooted in the demand for domestic assets. “E” is the foreign currency divided by the domestic currency (CF/CD).
		2. When E decreases, CD is *depreciating*. When E increases, CD is *appreciating*.
	2. The purchasing power parity influences the exchange rate. The more a currency can buy, the more the currency is worth. E increases as CD’s purchasing power increases (each CD can be exchanged for more CF).
	3. A change in the *relative domestic demand for imports* in the country causes appreciation (if the change is negative) or depreciation (if the change is positive). The opposite is true for exports.
	4. A change in the *relative domestic productivity* causes appreciation (if the change is positive) or depreciation (if the change is negative).
	5. A change in the *relative domestic interest rate* causes appreciation (if the change is positive) or depreciation (if the change is negative).
	6. A change in the *relative domestic price level* causes appreciation (if the change is negative) or depreciation (if the change is positive).
7. Fixed Exchange Rate Regime
	1. A fixed rate first focuses on an “anchor currency” to be pegged to. China, for example, once kept their rate at about 8 yuan to the dollar.
	2. The domestic government (the central bank) holds foreign currency, drawing a distinction between the private sector capital account and the government’s capital account, often called the *official reserve transactions balance* (the government’s international reserves).
	3. It is with this reserve of foreign currency that fixed exchange rate regimes manipulate the market.
	4. Suppose China as a major manufacturer suddenly looks less appealing to the world at large, putting downward pressure on the yuan.
		1. At eight to the dollar, the yuan is currently *overvalued*.
		2. To defend the currency, the government buys yuan with their international reserves (causing them to shrink).
		3. In effect, the government simulates additional demand for a currency people are losing interest in.
	5. Now suppose China suddenly looks more appealing as an economy to the world at large, putting upward pressure on the yuan.
		1. At eight to the dollar, the yuan is currently *undervalued*.
		2. To defend the currency, the government sells yuan for additional international reserves (causing them to grow).
		3. In effect, the government simulates a lack of demand for a currency people are gaining interest in.
1. In 2005, Turkey revalued their currency, effectively slicing off many zeros. So far the new lira looks pretty stable and has not yet fallen victim the same hyperinflation its namesake experienced. [↑](#footnote-ref-1)