SUPPLY & DEMAND
THE GREATEST LONG-RANGE FORECAST IN HISTORY...

I SEE OIL IN YOUR FUTURE...
MARKETS

- Institution that brings together buyers (DEMAND)
- and sellers (SUPPLY) of resources, goods and services
DEMAND is

- Amount of a good or service consumers are **willing and able** to buy
- Major determinant of demand is PRICE
- Amount of demand at each price is **quantity**
- Quantity of demand at each price is shown in a “Demand Schedule”
# DEMAND SCHEDULE (buyers)

<table>
<thead>
<tr>
<th>PRICE</th>
<th>QTY DEMANDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 1.75</td>
<td>3</td>
</tr>
<tr>
<td>$ 1.50</td>
<td>5</td>
</tr>
<tr>
<td>$ 1.25</td>
<td>7</td>
</tr>
<tr>
<td>$ 1.00</td>
<td>10</td>
</tr>
<tr>
<td>$ 0.75</td>
<td>15</td>
</tr>
<tr>
<td>$ 0.50</td>
<td>20</td>
</tr>
<tr>
<td>$ 0.25</td>
<td>25</td>
</tr>
</tbody>
</table>
DEMAND CURVE

PRICE

DEMAND

QUANTITY
DEMAND CURVE

- P is the vertical axis
- Qty of D is the horizontal axis
- Demand Curve is downward sloping because:
  - Common sense (lower price = buy more)
  - Diminishing marginal utility (the more consumers buy, the less satisfaction they receive)
  - Income & Substitution Effects
INCOME & SUBSTITUTION

- Income Effect – the lower price increases the purchasing power of consumer’s
- Substitution Effect – lower price gives incentive to “substitute” this item for those that are relatively more expensive
Diminishing marginal utility:

Consuming successive units of a particular product yields less and less extra satisfaction – consumers will only buy additional units if the price is lowered. (the more consumers buy, the less satisfaction they receive)
LAW OF DEMAND

- Demand varies inversely with price
- If Price goes up – Demand goes down
  Ex: luxury cars
- If Price goes down – Demand goes up
  - Ex: clearance sale
NON-PRICE DETERMINANTS

- **PREFERENCES** – based on popularity or trends by consumers
- **INCOME EFFECT** – how much money consumers have available to spend
- **POPULATION CHANGES** – how many consumers are in this market
- **EXPECTATIONS OF CONSUMERS** – what consumers think will happen in the future that affects their actions NOW!!
NON-PRICE DETERMINANTS con’t.

- **Elasticity of demand** – how much demand changes to respond to changes in price
  - More elastic when goods are luxuries
    - Ex: steak, diamonds, SUV
  - More inelastic when good is needed
    - Ex: medicine (insulin), soap, milk
NON-PRICE DETERMINANTS con’t.

- **Related Goods**

**SUBSTITUTION EFFECT**
- As price increases for a good, demand for its substitute (chicken for beef; generic) goes up

- **COMPLEMENTARY GOODS**
- As price goes down for one good, demand for that good & its complement both go up
- DVD player on sale but DVD bought for regular price
NON-PRICE DETERMINANTS

REMINDER: “P I P E E R”
– Preference of consumers (popularity)
– Income of consumers ($$ to spend)
– Population (# of consumers)
– Expectations for future (what to do NOW?)
– Elasticity (effect of price)
– Related Goods
  • substitute available?
  • price of complementary good changes—demand for both changes?
A little more on consumer expectations

1. Expect P to go up in the future = D > now
2. Expect P to down in the future = D < now
3. Expect income to > in near future = D > now
4. Expect income to < in near future = D < now

Example: The news announces that the P of CD players will < next week. What does D do?
Substitutes (+ relationship)

- If the P of steak $>$, then the d for chick $>$
- If the P of steak $<$, then the d for chick $<$
- Pepsi for Coke............................
Complementary goods: *inverse relationship*

- If the price of flashlights goes up, then the Demand of batteries goes down.

- If the price of flashlights decreases, then the D for batteries_______?
Be wary of independent goods. They have no effect on one another.

Like Chinese food and chocolate pudding.
Hurry Lads – to the white boards!
Change in QD – caused by a CH in the P of the product under consideration now.

1. shown by moving from one point to another along a stable/fixed demand curve.

2. Caused by a change in the P of the product

3. The P of T-shirts >, :: QD <
Change in D

- Caused by a CH in one or more of the non-price determinants of D
  (what's the acronym?)……………….

  1. The P of the product does not change now.
  2. Shown by shifting the D curve.

- D> shift to the right
- D< shift to the left
Draw a DC based on the D schedule below these stupid words.

<table>
<thead>
<tr>
<th>20oz Red Bull</th>
<th>Cans of 20oz Red Bull</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 1.75</td>
<td>3</td>
</tr>
<tr>
<td>$ 1.50</td>
<td>5</td>
</tr>
<tr>
<td>$ 1.25</td>
<td>7</td>
</tr>
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<td>10</td>
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<td>$ 0.50</td>
<td>20</td>
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<tr>
<td>$ 0.25</td>
<td>25</td>
</tr>
</tbody>
</table>
What do you do with D if the price moves from $.50 to $1.50?
A news report has just surfaced that energy drinks will make you smarter, better looking and smell like sunshine.
Three 4 year old kids drank Red Bull last night and tweeked so hard that they brains froze up like the laptops at Guyer.
20 oz Red Bull is selling for $2.00 per can.

The price of Monster just dropped to $1.00 per 20oz can.
SUPPLY is

- Amount of a good or service producers are **willing and able** to sell
- Major determinant of supply is **PRICE**
- Amount of supply at each price is **quantity**
- Amount of supply at each price is shown in a “**Supply Schedule**”
## SUPPLY SCHEDULE

<table>
<thead>
<tr>
<th>PRICE</th>
<th>QTY SUPPLIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 1.75</td>
<td>25</td>
</tr>
<tr>
<td>$ 1.50</td>
<td>20</td>
</tr>
<tr>
<td>$ 1.25</td>
<td>17</td>
</tr>
<tr>
<td>$ 1.00</td>
<td>15</td>
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<tr>
<td>$ 0.25</td>
<td>5</td>
</tr>
</tbody>
</table>
SUPPLY CURVE

- Price is the vertical axis
- Qty of supply is the horizontal axis
- Supply Curve is upward sloping because:
  - Price and quantity supplied have a direct relation
  - Price is an incentive to the producer as they receive more revenue when more is sold
LAW OF SUPPLY

- Supply varies directly with price
  - If Price goes up – Supply goes up
  - If Price goes down – Supply goes down
NON-PRICE DETERMINANTS

- **Cost of Production**
  - Cost of producing goods & services
  - Ex: minimum wage for labor goes up
  - Ex: Natural disasters make costs go up

- **Expectations of producers**
  - Predictions on how consumers will act

- **Resources** that can be used to produce different goods
  - Corn instead of wheat
NON-PRICE DETERMINANTS

- **Technology**
  - Improvements increase production

- **Taxes/Subsidies**
  - Pay more tax which increases cost of production
  - Gov pays firm to produce

- **Suppliers (# of firms)**

REMINDER: “C E R T T/S S”
Resource prices
Technology
Taxes and subsidies
Prices of other goods
Price expectations
Number of sellers in the market
Shifts in Supply & Demand Curves

- Increase - shifts to the right
- Decrease - shifts to the left
Shifts in Supply & Demand Curves

- Increase - shifts to the right
- Decrease - shifts to the left
Effects of Changes in both S&D page 53 in the book

<table>
<thead>
<tr>
<th>S</th>
<th>D</th>
<th>Eq P</th>
<th>Eq Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;</td>
<td>&lt;</td>
<td>&lt;</td>
<td>Indeterminate</td>
</tr>
<tr>
<td>&lt;</td>
<td>&gt;</td>
<td>&gt;</td>
<td>Ind</td>
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<tr>
<td>&gt;</td>
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<td>&lt;</td>
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<td>Ind</td>
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EQUILIBRIUM PRICE

- Point where buyers and sellers are equally satisfied
- Point where D & S curves intersect
- Adam Smith’s Invisible Hand Theory
  - Forces of S & D, competition & price make societies use resources efficiently
EQUILIBRIUM PRICE
Equilibrium

- When supply = demand, there is equilibrium in the market
- Equilibrium creates a single price and quantity for a good/service
Changes in equilibrium

- When supply or demand changes, the equilibrium price and quantity change.
- If demand increases then price increases and quantity increases.
- If demand decreases then price decreases and quantity decreases.
- If supply increases then price decreases and quantity increases.
- If supply decreases then price increases and quantity decreases.
Increase in Demand

\[ D \rightarrow \therefore P \uparrow & Q \uparrow \]
Decrease in Demand

\[ D \leftarrow \text{:: } P \downarrow \text{ & } Q \downarrow \]
Increase in Supply

\[ S \rightarrow \therefore P \downarrow \text{ & } Q \uparrow \]
Decrease in Supply

\[ S \leftarrow \therefore P^\uparrow \text{ & } Q^\downarrow \]
Simultaneous Changes in Supply and Demand

If supply and demand both increase then price is indeterminate, but quantity definitely increases.

If supply and demand both decrease then price is indeterminate, but quantity definitely decreases.
Simultaneous Increase in Supply & Demand

S \rightarrow & D \rightarrow \therefore P \uparrow & Q \uparrow
Simultaneous Decrease in Supply & Demand

\[ S_1 \leftarrow & D \leftarrow \therefore P \uparrow & Q \downarrow \]
Simultaneous Changes in Supply and Demand

If supply decreases while demand increases, then price definitely increases while quantity is indeterminate.

If supply increases while demand decreases, then price definitely decreases while quantity is indeterminate.
Decrease in Supply w/ Simultaneous Increase in Demand

\[ S \leftarrow & D \rightarrow .: P^\uparrow & Q? \]
Increase in Supply w/ Simultaneous Decrease in Demand

$S \rightarrow & D \leftarrow \therefore P \downarrow & Q\uparrow$
Disequilibrium

- If price occurs at some point where supply and demand are not equal, then disequilibrium exists.

- If the price is higher than the equilibrium price, then a surplus ($Q_s > Q_D$) occurs.

- If the price is lower than the equilibrium price, then a shortage occurs ($Q_s < Q_D$).
Market Disequilibrium

(Price, $p_x$, above Equilibrium Price, $p_e$)

If price is $p_x$, then $q_d < q_s$ : surplus exists ($\text{surplus} = q_s - q_d$)
If price is $p_x$, then $q_s < q_d \therefore$ shortage exists ($\text{shortage} = q_d - q_s$)
Causes of Disequilibrium

- Price floor – a minimum price for a good/service or resource determined outside of the market
  - Ex. Minimum wage

- Price ceiling – a maximum price for a good/service or resource determined outside of the market
  - Ex. Concert tickets sold by Ticket-master
Effective Price Floor
(ex. Minimum wage in competitive unskilled labor market)

If price floor is effective, then $q_d < q_s$ :: surplus labor exists
If price ceiling is effective then $q_s < q_d$. Thus, ticket shortage exists.
SURPLUS

- Supply is greater than demand at this price
- Must adjust by lowering price to reach equilibrium
Price Floors

- Government sets minimum price
  - Price can’t go lower
  - Causes surplus
  - Market can’t adjust

Ex: Minimum wage causes surplus of workers at set price
Demand is greater than supply at this price
Must adjust by increasing the price
Price Ceilings

- Government sets maximum price
  - Price can’t go higher
  - Causes shortage
  - Market can’t adjust

Ex: Rent controls, Price controls, Utility rates set by gov’t.
What else............

- Inferior goods - is a good that decreases in demand when consumer income rises.

- Superior goods - make up a larger proportion of consumption as income rises, and therefore are a type of normal good.

- Normal goods - are any goods for which demand increases when income increases and falls when income decreases but price remains constant.

- $ is not a productive resource – doesn’t produce.

- Ppc – the origin
- Ppc – perfectly shiftable
Conclusion

- Markets work best when supply and demand determine the price of goods/services or resources.
- When forces other than supply and demand determine the price of goods/services or resources, surpluses and shortages result.
- Over time, the forces of supply and demand undermine artificial price controls
  - Ex. Black markets, ticket scalping, undocumented workers
Supply and Demand Curves

http://ecedweb.unomaha.edu/Dem_Sup/econqui2.htm

TIME TO PRACTICE GRAPHS!