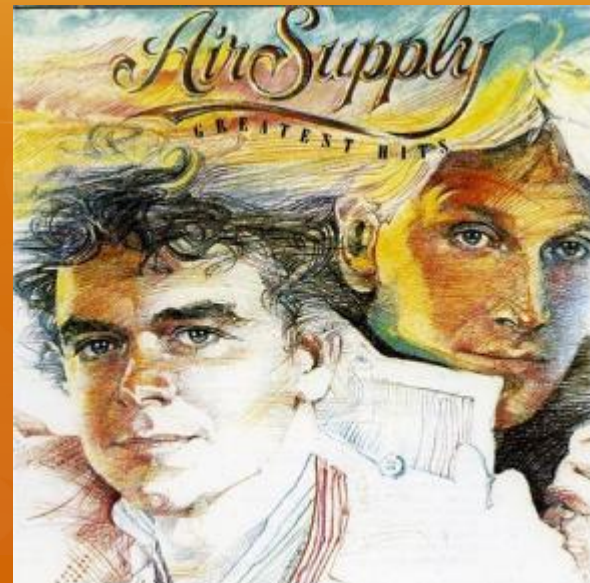
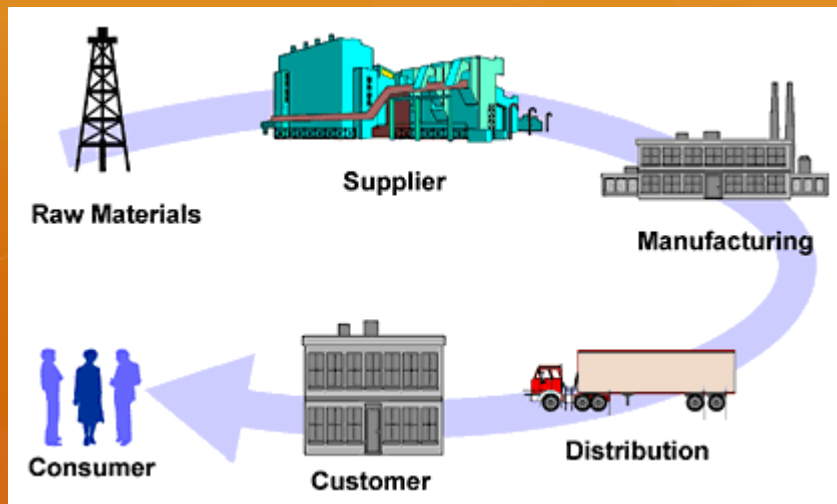


# SUPPLY!



# Supply

- The quantity demanded of a good or service that producers are willing to offer at a given price
  - For example, the supply of TV sets is the number of sets manufacturers will likely produce if the prevailing market is \$1200, \$700, \$300, or any other prices.



# Supply

- Everyone who offers an economic product for sale is a supplier.
- YOU will be more willing to supply more labor at a higher wage than you would for a low one.
- It is reasonable to predict that the higher the price, the greater quantity the seller will offer for sale.

# Law of Supply

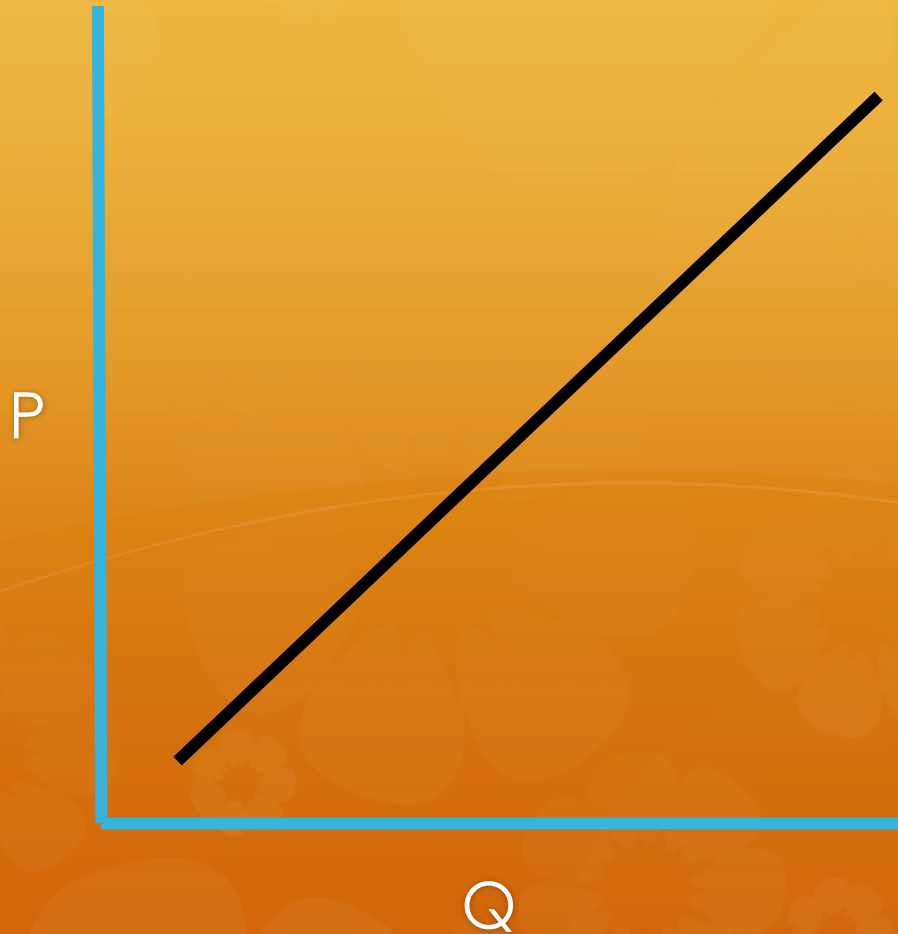
- **There is a direct relationship between the price of a product and the quantity supplied by the producer of the product**
- **As the price of the product increases the quantity supplied increases.**
- **As the price of the product decreases the quantity supplied decreases**



# Supply Schedules and Curves

- A supply schedule is a list of possible prices of a product and the corresponding quantities supplied.
- A supply graph illustrates the direct relationship between price and quantity supplied.
- All supply curves slope upward from left to right showing that as price increases, quantity supplied also increases.

# Supply Curve



# Supply and Labor Prices

- **How do price and quantity supplied relate to salaries and labor in the NBA?**
- **How about in other professions?**



# What are the costs of Production?

- **Labor Affects Production**
  - **The change in total product that results from hiring *one more worker* is called the marginal product**
  - **Businesses experience increasing returns when each new worker adds more total output than the last**
  - **However, there comes a point when the addition of new workers causes the marginal product to decrease, which is diminishing returns.**



Number of Workers	Total Product	Marginal Product
0	0	0
1	3	3 (3-0)
2	7	4 (7-3)
3	12	5 (12-7)
4	19	7 (19-12)
5	29	(29-19)
6	42	(42-29)
7	53	
8	61	
9	66	
10	67	
11	65	

- At what number of workers is the total product the highest?
- Should this business hire more than 6 workers? Why or Why not?

# Why does this happen?

- **One possible explanation for the trend in this business is that there are 6 specific tasks to do at this factory. Each worker can specialize in one task. Too few workers means they are not using their resources in the most efficient manner, and too many workers means they are overcrowding the factory causing a decrease in productivity.**

# Production Costs

- **Fixed Costs:** business owners incur these costs no matter how much they produce

**FIXED COSTS ALWAYS STAY THE SAME!!!!**

- **Variable Costs:** depend on the level of production output

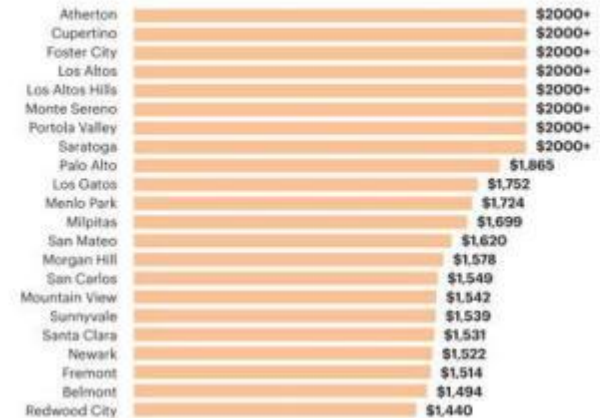
**VARIABLE COSTS CAN CHANGE!**



Average Salary, Male vs. Female



MEDIAN RENT





# Production Costs, Cont'd.

- Total Cost: the total cost of production is found by adding fixed costs and variable costs.
- Marginal Cost: The extra cost of producing one additional unit. It is determined by **dividing the change in total cost by the change in total product**

Costs of Production						
Number of Workers	Total Product	Marginal Product	Fixed Costs	Variable Costs	Total Cost	Marginal Cost
0	0	0	40	0	40 (40+0)	--
1	3	3 (3-0)	40	30	70 (30+40)	10 ([70-40]/3)
2	7	4 (7-3)	40	62	102 (62+40)	8 ([102-70]/3)
3	12	5 (12-7)	40	97	137 (97+40)	7([137-102]/3)
4	19	(19-12)	40	132	(132+40)	
5	29	(29-19)	40	172	(172+40)	
6	42	(42-29)	40	211	(211+40)	
7	53		40	277		
8	61		40	373		
9	66		40	473		
10	67		40	503		
11	65		40	539		

# Earning Profit \$\$\$\$

- Total Revenue: Remember to find a business's total revenue you simply multiply price times total product.
- Marginal Revenue: The money made from the sale of each additional unit of output



# Earning Profit

- Profit: Total Revenue minus Total Cost will give you the profit
- Profit Maximizing Output: The level of production at which the business realizes the greatest amount of profit.



Costs of Production						
Number of Workers	Total Product	Marginal Product	Fixed Costs	Variable Costs	Total Cost	Marginal Cost
0	0	0	40	0	40 (40+0)	--
1	3	3 (3-0)	40	30	70 (30+40)	10 ([70-40]/3)
2	7	4 (7-3)	40	62	102 (62+40)	8 ([102-70]/3)
3	12	5 (12-7)	40	97	137 (97+40)	7([137-102]/3)
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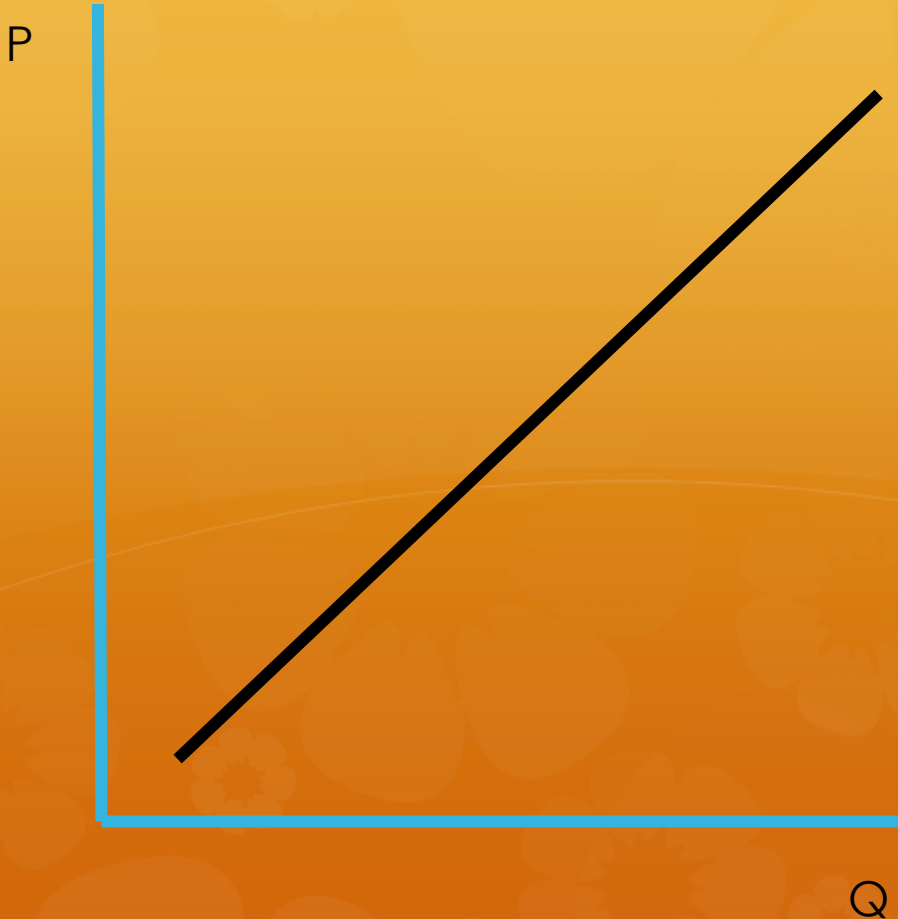
Total Revenue	Total Cost	Profit (\$)
0	40	-40 (0-40)
60	70	-10 (60-70)
140	102	38 (140-102)
240	137	103 (240-137)
380	172	
580	212	
840	251	
1060	317	
1220	413	
1320	513	
1340	543	
1300	579	

**What is the profit maximizing output for this schedule?**

# What Factors Effect Supply?

- Changes in the Quantity Supplied can only be cause by changes in price
- Changes in the Quantity Supplied result in movement along the supply curve
- Changes in the Quantity Supplied are explained by the Law of Supply which states that as price increases so does the quantity supplied

Changes in quantity supplied refer to the movement from point to point along the supply curve, which shows different quantities offered for sale at different prices **SLIDING**

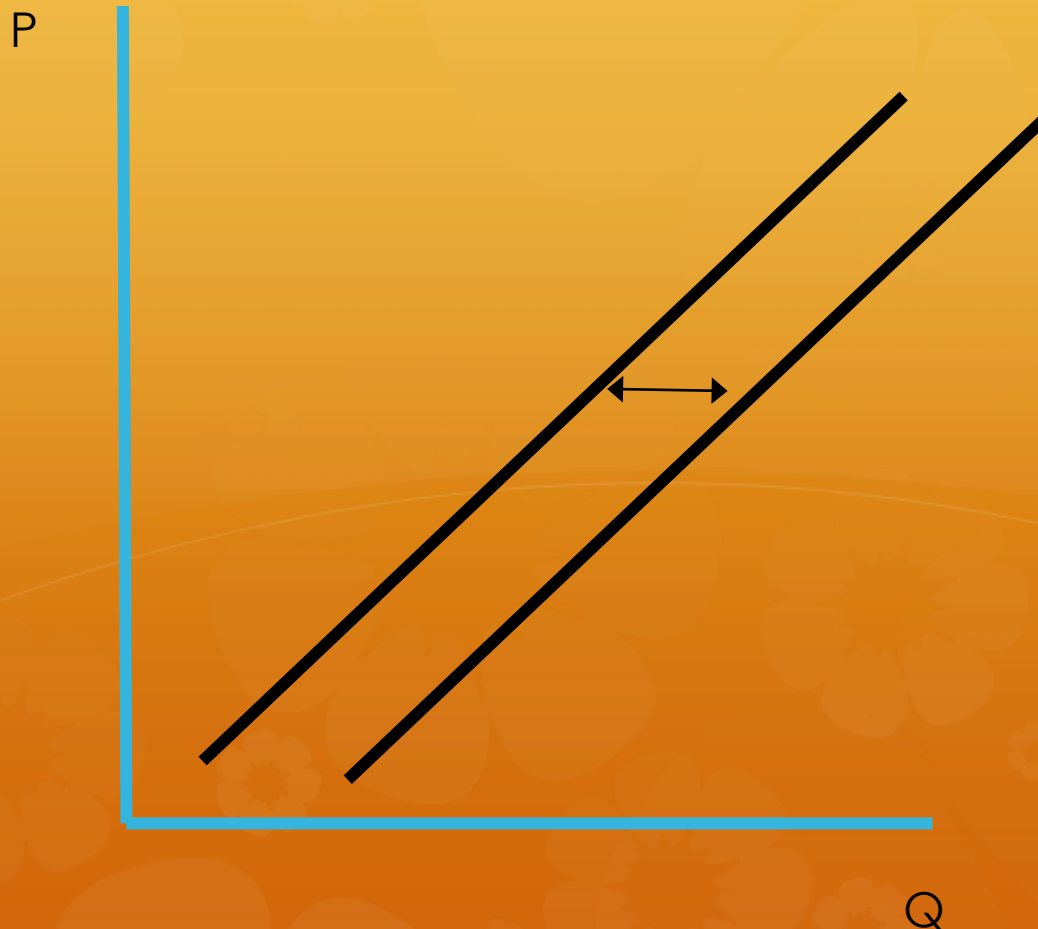




# Changes in Supply

- Changes in Supply can only occur when there is a change in something other than the price
- An increase in supply causes the curve to shift to the right
- A decrease in supply causes the curve to shift to the left.

When something **OTHER THAN PRICE** changes, the entire curve shifts to the left or right.



# Non-Price Determinants of Change of Supply

- Input Costs: The price of the resources used to produce a good or service
  - Example: I make cookies that have walnuts in them and the price of walnuts increases so I cannot afford to produce as many cookies so my supply curve will shift to the left



# Labor Productivity



- Example: if management trains workers to be more efficient, then productivity increases. The supply curve would shift to the right because more units are being produced at each price.

- **Labor Productivity:**  
Amount of goods and services that a person can produce in a given time. Increasing productivity decreases the costs of production and therefore increases supply. Training and skills tend to have a direct relationship with productivity.



# Technology

- **Technology**: Application of new scientific/technological discoveries to the production process results in an increase in supply.
  - Example: better farm equipment, more food produced per hour.
  - New technology almost always shifts supply curves to the right.



# Government Action

- Regulation Tax: taxes that are designed to control business behavior.
- Excise Tax: A tax on the making or selling of certain goods or services. Substances that the government is interested in discouraging consumption of. Decreases supply. Ex: alcohol or tobacco (shift to the left)
- Subsidy: A government payment that partially covers the cost of production. Ex: government subsidizes the cost of producing ethanol, a gasoline substitute. (Shift to the right)

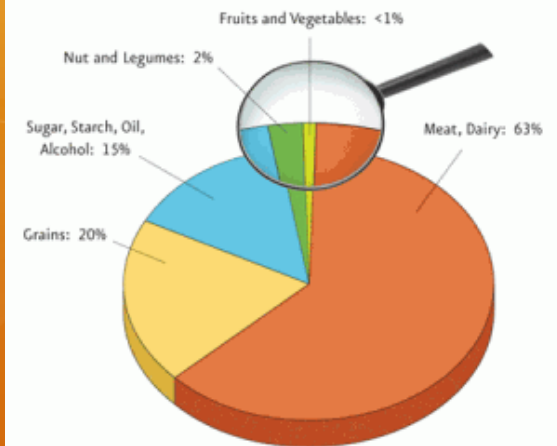


California's Cigarette Excise Tax

Total Tax Per Pack  
87c



Where the Money Goes: The Foods That Subsidies Support



# Producer Expectations

- Producer Expectations: Amount of a product that producers are willing and able to supply may be influenced by whether they believe prices will go up or down. Producers use market research to help them make these predictions.





# Number of Producers

- Number of Producers: A successful new product or service always brings out competitors who initially raise overall supply. More suppliers causes the curve to shift to the right.
- Example: Ipad was first, now there are more “smart tablets”.



# Government Regulations

- Government Regulations - When government places mandates on producers, the cost of inputs increases, shifting the curve to the left.
- For example, when government mandates new auto safety features such as stronger bumpers, air bags, and emission controls, cars cost more



# Change in Supply

- What do you think happens to the supply curve in the following situations and why?
- 1. Cost of materials used to make CDs fall.
- (Shifts to right because supply increases because price of inputs falls.)
- 2. New training methods improve worker efficiency.
- (Shifts to right because supply increases due to increased productivity.)



# Change in Supply

- 3. Innovative process for pressing CDs introduced.
- (Shifts to right because supply increases because new technology lowers production costs.)
- 4. Leading CD producer goes out of business.
- (Shifts of left because supply decreased by suppliers leaving the market.)

# Elasticity of Supply

- Elasticity of Supply: The degree to which changes in price cause changes in the quantity supplied.

# Elastic Supply

- Elastic Supply: Small changes in price cause big changes in the quantity supplies
  - The Raw Materials required to make the product are not particularly expensive or hard to find.
  - The Actual Manufacturing of the product is uncomplicated and easy to increase.

# Inelastic Supply

- Large changes in price cause only small changes in the quantity supplied
  - The Raw materials required to make the product are expensive and hard to find.
  - The actual manufacturing of the product is complicated and difficult to increase.

# Perfectly Inelastic supply

- Perfectly inelastic supply:  
Changes in price have no effect on the quantity supplied.

# Determinants of Supply Elasticity

- Availability of Raw Materials
  - If raw materials are easily available the supply is elastic
  - If raw materials are not easily available, supply is inelastic



# The Process of Manufacturing

- If manufacturing is complicated, supply is inelastic
- If manufacturing is easy and materials are easy to get, supply is elastic

# Response Time

- If suppliers can act quickly to change production, supply is elastic
- If suppliers cannot act quickly to change production, supply is inelastic.

## Education, Training, and Library Occupations [top](#)

		Employment Estimates		Wage Estimates			
SOC Code Number	Occupation Title (click on the occupation title to view an occupational profile)	Employment <a href="#">(1)</a>	Percent of Total	Median Hourly	Mean Hourly	Mean Annual <a href="#">(2)</a>	Mean RSE <a href="#">(3)</a>
25-2011	<a href="#">Preschool Teachers, Except Special Education</a>	64,570	0.78%	\$15.93	\$18.41	\$38,290	5.8 %
25-2012	<a href="#">Kindergarten Teachers, Except Special Education</a>	157,340	1.89%	<a href="#">(4)</a>	<a href="#">(4)</a>	\$47,950	2.5 %
25-2021	<a href="#">Elementary School Teachers, Except Special Education</a>	1,490,850	17.93%	<a href="#">(4)</a>	<a href="#">(4)</a>	\$48,730	1.4 %

### National estimates for Athletes and Sports Competitors:

Employment estimate and mean wage estimates for this occupation:

Employment <a href="#">(1)</a>	Employment RSE <a href="#">(3)</a>	Mean hourly wage	Mean annual wage <a href="#">(2)</a>	Wage RSE <a href="#">(3)</a>
12,500	5.9 %	<a href="#">(4)</a>	\$74,440	4.6 %

Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Annual Wage <a href="#">(2)</a>	\$14,570	\$22,770	\$41,060	\$94,040	<a href="#">(5)</a>