



YOUR MISSION...

You have been selected to answer some critical questions about economics.

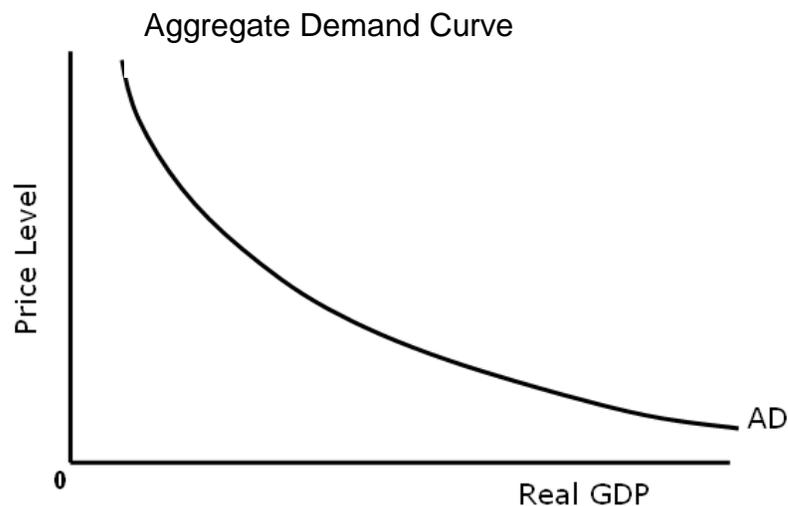
You and your partners (groups of 2-3) will undertake a series of challenges to earn points in order to win the ultimate prize: the ability to use your notes on the next quiz!

STEP 1: Memorize the definition, formula, and graph of **Aggregate Demand**. These must be committed to memory, as they will prove to be valuable throughout your mission.

Aggregate demand is defined as the total spending on goods and services in a period of time at a given price level.

$AD = \text{Consumption} + \text{Investment} + \text{Government Spending} + \text{Net Exports}$

$AD = C + I + G + (X - M)$



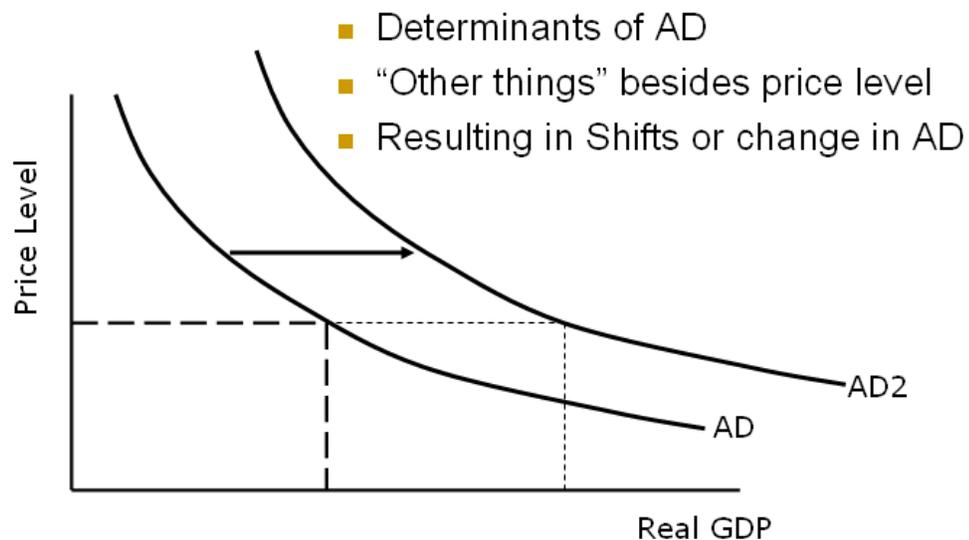
STEP 2: Prove your abilities to the commander and receive your next set of directions. Each of you will be asked a question. Earn points for the mission by answering the questions completely.



PHASE TWO...

You must apply economic scenarios to shifts in the aggregate demand curve.

Shifts in the Aggregate Demand Curve



STEP 1: Read the following information about AD shifters and add information to your notes:

Shifts in the Aggregate Demand Curve

Shifts to the left

There are many actions that will cause the aggregate demand curve to shift. When the aggregate demand curve shifts to the left, the total quantity of goods and services demanded at any given price level falls. This can be thought of as the economy contracting.

To understand what causes the economy to contract, let's start with the basic equation for the demand curve. Recall that the price level is not directly in the equation for aggregate demand. Rather, it is implicit in each of the terms in the equation. We know that aggregate demand is comprised of $C + I + G + NX$. Thus, a decrease in any one of these terms will lead to a shift in the aggregate demand curve to the left.

The first term that will lead to a shift in the aggregate demand curve is C . This term states that consumption is a function of disposable income. If disposable income decreases, consumption will also decrease. There are

many ways that consumption can decrease. An increase in taxes would have this effect. Similarly, a decrease in income--holding taxes stable--would also have this effect. Finally, an increase in the savings rate would also decrease consumption.

The second term that will lead to a shift in the aggregate demand curve is I. This term states that investment is a function of the interest rate. If the interest rate increases, investment falls as the cost of investment rises. Another interesting cause of a fall in investment is a decrease in investment spending. This occurs when firms simply decide to invest less without regard for the interest rate.

The third term that will lead to a shift in the aggregate demand curve is G. This term captures the whole of government spending. The only way that government spending is changed is through fiscal policy. Recall that the budgetary debate is an ongoing political battlefield. Thus, government spending tends to change regularly. When government spending decreases, regardless of tax policy, aggregate demand decreases, thus shifting to the left.

The fourth term that will lead to a shift in the aggregate demand curve is NX. A decrease in the demand for exported goods or an increase in the demand for imported goods will cause the aggregate demand curve to shift left as net exports fall. An example of this type of shift would be a change in tastes or preferences.

Shifts to the right

The aggregate demand curve also can shift right as the economy expands. When the aggregate demand curve shifts right, the quantity of output demanded for a given price level rises. Therefore, a shift of the aggregate demand curve to the right represents an economic expansion. A shift of the aggregate demand curve to the right is simply affected by the opposite conditions that cause it to shift to the left.

STEP 2: Complete the shifter sheet as practice. (on the back)

STEP 3: Prove your abilities to the commander and receive your next set of directions. Each of you will be asked a question. Earn points for the mission by answering the questions completely.

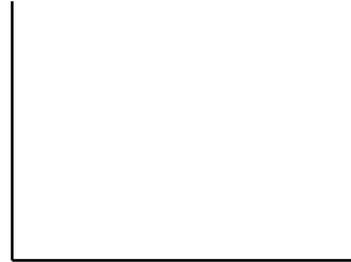
SHIFTER SHEET

READ THE FOLLOWING EXAMPLES, AND GRAPH THE CHANGES THAT WOULD RESULT TO THE AGGREGATE DEMAND CURVES.

1. President Obama raises taxes by 10 percent.



5. Government spending increases by 14 percent.



2. The price of domestic automobiles increases by 8 percent.



6. Interest rate on savings accounts falls to an all-time low.



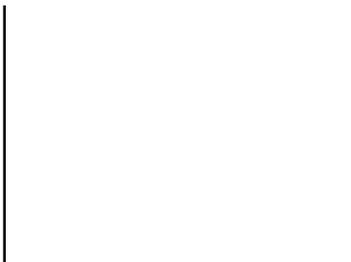
3. The stock market experiences new highs for the year.



7. Stock market collapses; investors lose billions.



4. Surveys show that consumers believe that the recession is over.



8. Autonomous investment spending decreases.



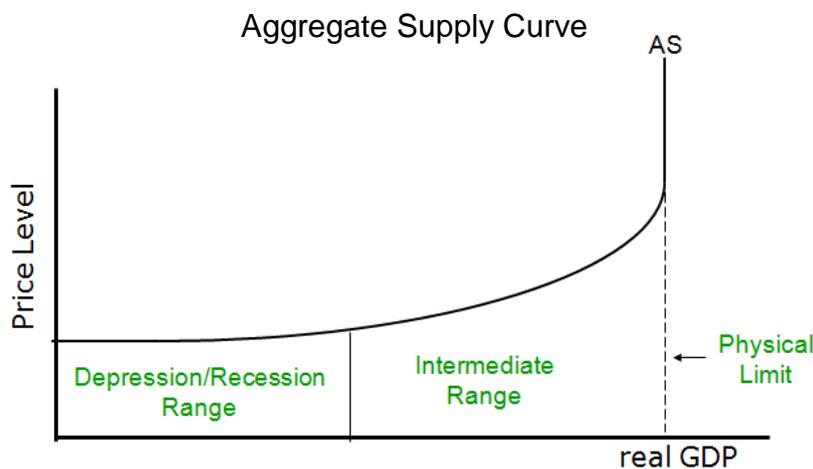


PHASE THREE...

You possess half of the required knowledge required to successfully understand the macroeconomic equilibrium. It is now time to approach the ins and outs of aggregate supply.

STEP 1: Memorize the definition and graph of **Aggregate Supply**. These must be committed to memory, as they will prove to be valuable throughout your mission.

Aggregate supply is the total amount of goods and services that all industries in the economy will produce at every given price level.



STEP 2: Understand the three ranges of the AS model.

1. When AD intersects AS in the **Depression/Recession Range**, output is very low. If there is an increase in AD, prices will not rise because there is excess resources, including unemployed labor and unemployed capital.
2. When AD intersects AS in the **Intermediate Range**, there will be tradeoffs between GDP growth and inflation. If AD increases, there will be increased output as well as increased price level because of the scarcity of resources. Likewise, if AD decreases, there will be decreased output and decreased inflation. Ideally, AD increases to represent a growth rate of 2-3% and an inflation rate change near but below 2%.
3. When AD intersects AS in the **Physical Limit**, the economy is operating at full capacity. We are on the curve of the Production Possibilities Frontier. If AD increases, there cannot be increased output because it is impossible. The only effect will be more inflation.

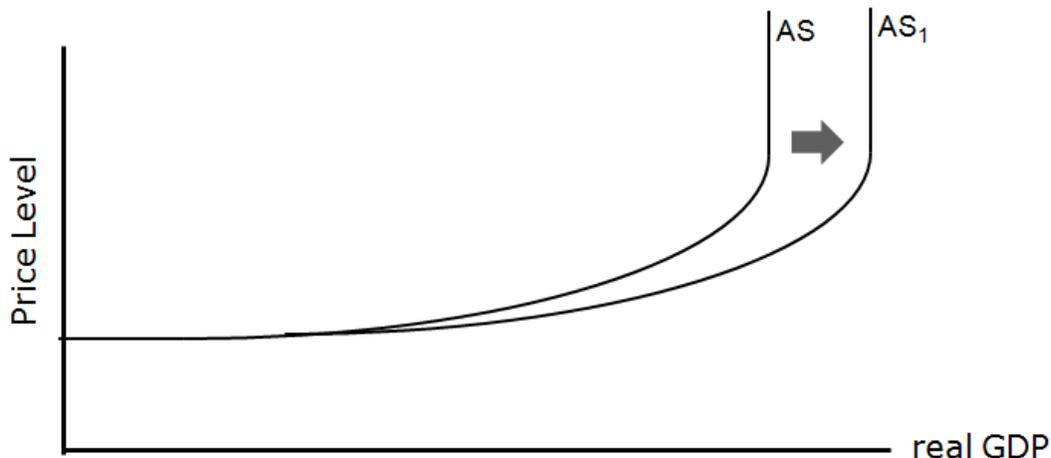
STEP 3: Prove your abilities to the commander and receive your next set of directions. Each of you will be asked a question. Earn points for the mission by answering the questions completely.



PHASE FOUR...

You must apply economic scenarios to shifts in the aggregate supply curve.

STEP 1: Read the summary about shifts of aggregate supply and add information to your notes.



Shifts in Aggregate Supply in the AS-AD Model

Shifts in the aggregate supply curve are much rarer than shifts in the aggregate demand curve. When a supply shock occurs, the aggregate supply curve shifts.

There are two types of supply shocks. Adverse supply shocks include things like increases in oil prices, a drought that destroys crops, and aggressive union actions. In general, adverse supply shocks cause the price level for a given amount of output to increase. This is represented by a shift of the aggregate supply curve to the left. Positive supply shocks include things like decreases in oil prices or an unexpected great crop season. In general, positive supply shocks cause the price level for a given amount of output to decrease. This is represented by a shift of the aggregate supply curve to the right.

In general, if the whole line of the Production Possibilities Frontier will shift, the aggregate supply curve will too.

STEP 2: Complete the shifter scenarios on the back of this sheet as practice.

Aggregate Supply Shifters

1. Immigration laws are tightened.

A blank coordinate system with a vertical y-axis and a horizontal x-axis, intended for drawing a graph to illustrate the effect of tightened immigration laws on the aggregate supply curve.

2. OPEC limits oil supply.

A blank coordinate system with a vertical y-axis and a horizontal x-axis, intended for drawing a graph to illustrate the effect of OPEC limiting oil supply on the aggregate supply curve.

3. Tax rates are increased.

A blank coordinate system with a vertical y-axis and a horizontal x-axis, intended for drawing a graph to illustrate the effect of increased tax rates on the aggregate supply curve.

4. New technology improves productivity of workers.

A blank coordinate system with a vertical y-axis and a horizontal x-axis, intended for drawing a graph to illustrate the effect of new technology improving worker productivity on the aggregate supply curve.

5. Study shows that high school graduates are better prepared to enter the workforce.

A blank coordinate system with a vertical y-axis and a horizontal x-axis, intended for drawing a graph to illustrate the effect of a study showing better preparation of high school graduates on the aggregate supply curve.

6. Major earthquakes disrupt railroads.

A blank coordinate system with a vertical y-axis and a horizontal x-axis, intended for drawing a graph to illustrate the effect of major earthquakes disrupting railroads on the aggregate supply curve.

7. Labor unions demand an increase to the minimum wage.

A blank coordinate system with a vertical y-axis and a horizontal x-axis, intended for drawing a graph to illustrate the effect of labor unions demanding a minimum wage increase on the aggregate supply curve.

STEP 3: Prove your abilities to the commander and receive your next set of directions. Each of you will be asked a question. Earn points for the mission by answering the questions completely.



PHASE FIVE...

For your final mission, combine all of the knowledge you have acquired to identify the equilibrium level of national income/output.

The economy is in equilibrium where aggregate demand equals aggregate supply. Graphically, it looks like the microeconomic equilibrium. However, one may identify inflation, growth, and employment consequences from this model. As aggregate supply and/or demand shift, effects on price level and output translate to inflation and real GDP. Unemployment decreases as output increases, and vice versa.

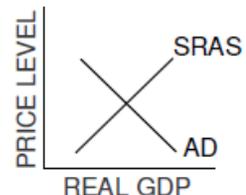
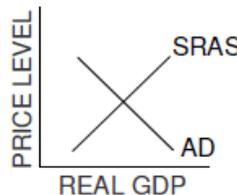
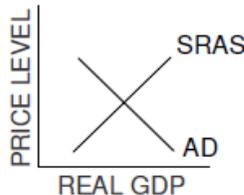
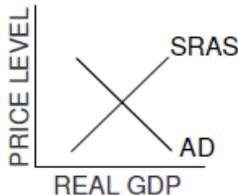
STEP 1: For each of the events below, make additions to the graph to illustrate the change. Then indicate the response in terms of shifts in or movements along the aggregate demand or aggregate supply curve and the short-run effect on real GDP and the price level. Indicate *shifts* in the curve by S and movements *along* the curve by A. Indicate the changes in price level, unemployment and real GDP with an up arrow for an increase and a down arrow for a decrease.

1. Increase in labor productivity due to technological change

2. Increase in the price of inputs used by many firms

3. Boom in investment assuming some unemployed resources are available

4. A major reduction in investment spending

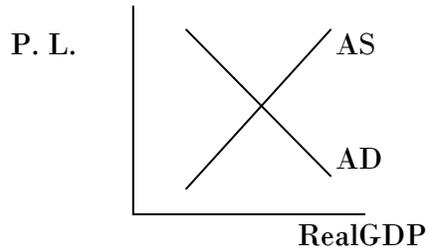


AD Curve	_____	_____	_____	_____
AS Curve	_____	_____	_____	_____
Real GDP	_____	_____	_____	_____
Price Level	_____	_____	_____	_____
Unemployment	_____	_____	_____	_____

STEP 3: Submit this final product to the commander for the rest of your points.

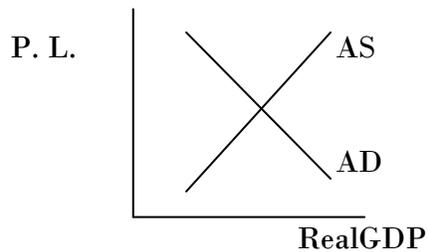
For each situation described below, illustrate the change on the AD and AS graph and describe the effect on the equilibrium price level and real GDP by circling the correct symbol ↑ for increase, ↓ for a decrease and – for unchanged

5. Congress passes a tax cut for the middle class and the president signs it.



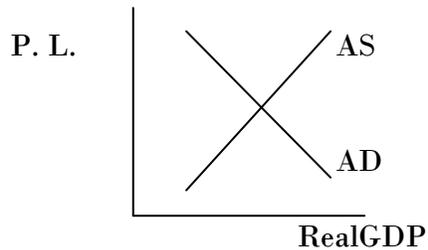
Price Level: ↑ ↓ –
 Real GDP: ↑ ↓ –

6. During a recession, the government increases spending on schools, highways and other public works.



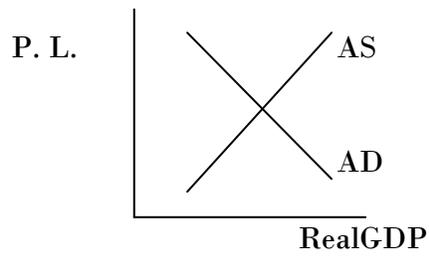
Price Level: ↑ ↓ –
 Real GDP: ↑ ↓ –

7. New oil discoveries cause large decreases in energy prices



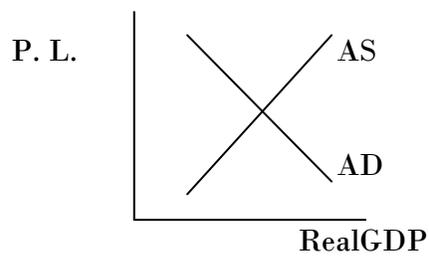
Price Level: ↑ ↓ –
 Real GDP: ↑ ↓ –

8. Illustrate the effects of an increase in aggregate demand



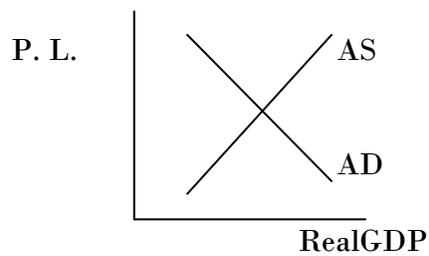
Price Level: ↑ ↓ —
Real GDP: ↑ ↓ —

9. Illustrate the effects of increase in product costs



Price Level: ↑ ↓ —
Real GDP: ↑ ↓ —

10. New technology and better education increase productivity



Price Level: ↑ ↓ —
Real GDP: ↑ ↓ —