

Economics Unit 3 Summary

SSEMA1 Illustrate the means by which economic activity is measured.

Economic activity derives from the sectors of the economy explored in the fundamentals and microeconomics units. Individuals, businesses, markets, and governments all interact to create a country's economy. The degree of strength or weakness of all economic activity in an economy will affect the individual components of that economy. For this reason, public and private entities constantly measure specific types of economic activity and synthesize the data to create a picture of the economy's health. The pictures drawn by the data inform policy makers who may choose to intervene in the economy to meet economic goals.

a. Identify and describe the macroeconomic goals of steady economic growth, stable prices, and full employment.

In Unit 1, we discussed the social economic goal of GROWTH. Most countries measure this by looking at changes in real gross domestic product over time. Countries want steady **economic growth** because it means the economy is moving in the right direction. Steady economic growth is usually associated with things like entrepreneurs starting new businesses, firms becoming more productive by adding capital or new technology, workers becoming more productive through increases in knowledge and skills, and productive resources being available in greater quantities for the economy. This can be illustrated on a production possibilities curve indicating a growing economy.

Another economic goal is STABILITY. **Price stability** refers to minimizing increases in the price level over time so that a country's money will retain its purchasing power over time. Countries have many ways to measure changes in the price level in the economy. For this course, you only need to know one of these measures of price level, the **Consumer Price Index**. Countries want stable prices so individual, firms, and governments can correctly predict how much the money they have now will buy in the future. Our predictions, about changes in the purchasing power of our money over time, affects how we save, how much we save, and when we decide to spend our savings.

Another part of STABILITY is the social economic goal of full employment. **Full employment** refers to the state of the economy when virtually all who are willing and able to work have the opportunity to do so. Countries have many ways to measure full employment. For this course, you only need to know one of these measures, the **unemployment rate** as well as the four types of unemployment people in the labor force may encounter. Countries want full employment because of the circular flow of the economy. The income people receive from working affects their ability to buy products and pay taxes. If consumers become unemployed, they will have less income to spend, firms will receive less revenue, and entrepreneurs will earn less profit. Businesses may close because they cannot cover their costs, causing increased numbers of workers to become unemployed. If workers and entrepreneurs are earning lower incomes, they will pay less to the government in taxes, reducing the amount of public goods and services available. If governments cannot maintain roads or fund schools, the infrastructure needed to support economic activity will decline and the economy will contract.

b. Define Gross Domestic Product (GDP) as the sum of Consumer Spending, Investment, Government Spending, and Net Exports (output expenditure model).

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Gross Domestic Product (GDP) is the sum of consumer spending, investment spending, government spending, and net exports. **Consumer spending** refers to the monetary value of what households spend on final goods and services in the product market in a given time period. **Investment** includes the monetary value of final capital goods businesses purchase in a given time period, the value of inventories produced by businesses, but not yet sold, by the end of the measurement time period, and the value of new home construction produced in the given time period. **Government spending** is the monetary value of any spending on final goods and services by a local, state, or national government in a given time period. **Net exports** refers to the monetary value of all final goods and services produced in one country but sold outside the country's borders minus the monetary value of all final goods and services produced outside the country's borders but sold within the country in a given time period. In other words, the value of a country's exports minus the value of a country's imports in a given time period. This method of calculating a country's GDP is the **Output Expenditure Model**.

c. **Define unemployment rate, Consumer Price Index (CPI), inflation, real GDP, aggregate supply and aggregate demand and explain how each is used to evaluate the macroeconomic goals price stability and full employment.**

The **unemployment rate** is a statistic reported by the Federal Department of Labor's Bureau of Labor Statistics (BLS). The BLS calculates the unemployment rate from data derived from a sample of 60,000 households as part of the Census Bureau's Current Population Survey. The BLS reports the statistic monthly. To calculate the unemployment rate, take the number of unemployed people in the country divided by the number of people in the labor force and multiplying the quotient by 100. The result is the percentage of people in the labor force who are unemployed. Since some types of unemployment always exist, such as those graduating from college who start looking for a job, full employment does not mean zero percent unemployment. Economists usually indicate full employment is attained when the unemployment rate is somewhere between 4% and 6%.

Those counted as unemployed meet several criteria.

- The person must be at least 16 years old,
- they cannot be in prison or a mental institution,
- they cannot have worked for pay in the measurement time-period
- they must be actively seeking a job.

Calculate the labor force by adding all unemployed people in a country to all the employed people. Those considered employed are

- 16 years old,
- not a member of the armed forces
- worked for pay in the time-period measured.

The **Consumer Price Index (CPI)** is also a statistic reported monthly by the BLS. The statistic measures the change in value of a basket of goods and services purchased by the average urban consumer. To calculate CPI, take the current value of the market basket, divide it by the value of the market basket in the base year, and multiply the quotient by 100 to get the index number. The base year is simply the year the BLS has chosen to be the year of comparison. As of the writing of this document, the BLS uses the value of the basket in 1982-1984. Statisticians use the resulting CPI number to calculate the inflation rate in the country.

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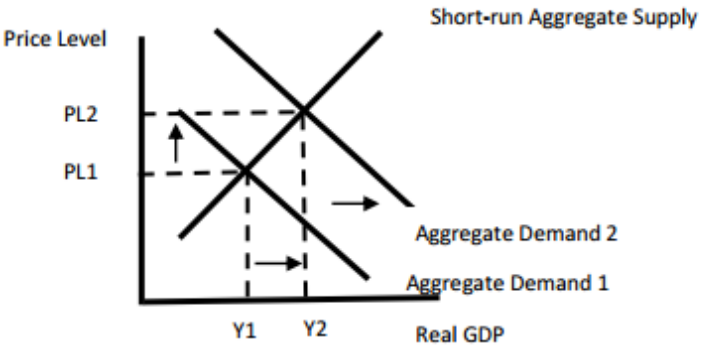
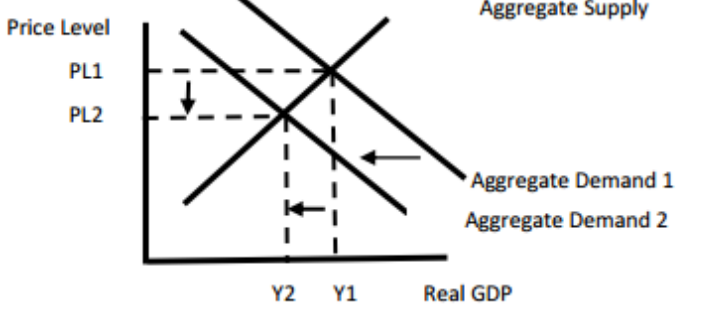
Inflation is a sustained increase in the price level in an economy over time. One way to measure whether there is inflation in the economy is to calculate the inflation rate. The **inflation rate** is equal to the percent change in a price index number such as the CPI. Percent change in CPI is equal to the new CPI minus the old CPI divided by the old CPI times 100. If the result of this calculation is positive then the price level is rising. Most economists do not want the inflation rate to be zero percent and agree that some inflation will occur when an economy is growing. Increases in the price level become a concern when they happen too quickly, when they make it difficult for households and firms to plan for the future, when they occur because of shocks in markets for productive resources, or when they are a result of inappropriate public policy decisions.

Real GDP is the value of current gross domestic product adjusted for inflation. This is a more accurate view of a country's productivity than just the current dollar value of the output expenditure model. Before adjusting for inflation, an increase in GDP could be due to an increase in the prices of the final goods and service produced rather than an increase in the quantity of goods and services produced. To calculate real GDP, take the value of the output expenditure model, divide it by a price index number such as CPI, and multiply the quotient times 100. The result is GDP adjusted for changes in the price level. Most countries measure economic growth through calculating the percentage change in real GDP from one period to the next.

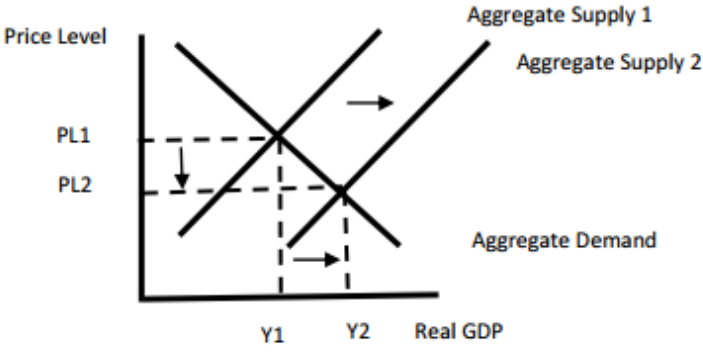
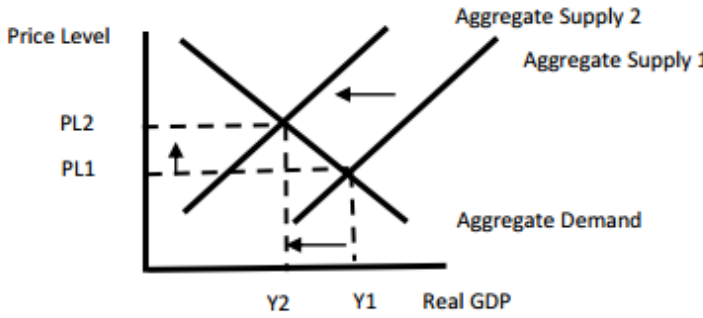
Aggregate Demand refers to the total quantity of all goods and services consumers are willing and able to purchase at each price level in a given period of time. The aggregate demand curve (AD) is downward-sloping showing an inverse relationship between price level and real GDP. Three effects explain the downward-sloping Aggregate Demand curve: the interest rate effect, the wealth effect (real balances), and the foreign purchases effect (net exports effect). The interest rate effect causes the downward slope of the aggregate demand curve because as price level rises, interest rates (the price of borrowing money) rises resulting in consumers and businesses spending less on interest sensitive purchases like cars, new homes, and physical capital. The wealth effect occurs when a rising price level reduces the purchasing power of consumers thus lowering the amount of consumption spending due to higher prices. Finally, the foreign purchases effect occurs when a higher price level in a country makes the relative price of the country's exports higher, reducing demand for the country's exports in other countries.

Aggregate Supply is the total quantity of final goods and services producers in an economy are willing and able to supply at each price level. Aggregate supply has both a short-run and a long-run curve. Aggregate supply in the short-run is typically an upward-sloping curve. This illustrates a direct or positive relationship between price level and the quantity of real GDP output supplied in the economy. It is upward-sloping in the short-run because wages and prices are slow to change due to contracts. Economists called this "sticky" wages and prices. In the long-run, economists generally view wages and prices as completely flexible. Therefore, the long-run aggregate supply curve is vertical at the full employment level of real GDP (real output or real national income). The long-run curve illustrates that, in the long-run, changes in price level have no effect on the long-run quantity of final goods and services the economy can produce. Although it is beyond the scope of this element, graphing the aggregate demand and supply curves can help students visualize the effect of a change in the curves on the macroeconomic goals of price stability and full employment.

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Change in Aggregate Demand	Effects of a Change in Aggregate Demand
<p>Increase in Aggregate Demand – Increases in aggregate demand can occur when changes in the economy lead households, businesses, governments, or foreign consumers of domestic exports to purchase a greater number of final goods and services at all price levels.</p> <p>Real GDP increases – The change from Y1 to Y2 means more employment in the short-run. This change indicates economic growth only if the percent change in Real GDP is greater than the percent change in price level.</p> <p>Price Level Increases – Price level increased from PL1 to PL2. This indicates an increase in the inflation rate. The amount of the increase would determine how well the country's is meeting its price stability goals.</p>	
<p>Decrease in Aggregate Demand – Decreases in aggregate demand can occur when changes in the economy lead households, businesses, governments, or foreign consumers of domestic exports to purchase a smaller number of final goods and services at price levels.</p> <p>Real GDP decreases – The change from Y1 to Y2 means less employment in the short-run. This change indicates the economy is contracting rather than growing.</p>	
<p>Price Level decreases – Price level decreased from PL1 to PL2. This indicates a decrease in the price level or deflation. Deflation is generally not desirable when it occurs because of a decrease in economic activity. When the price level falls, businesses are unable to sell their products at a price high enough to cover costs they have already incurred, putting producers at risk of failure.</p>	

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Change in Aggregate Supply	Effects of a Change in Aggregate Supply on an Economy
<p>Increase in Aggregate Supply – Increases in aggregate supply can occur when changes in the economy reduce the costs of production or increase productivity for industries throughout the country, allowing producers to supply a greater number of final goods and services at all price levels.</p> <p>Real GDP increases – The change from Y1 to Y2 means more employment in the short-run. This change indicates economic growth in the short-run because the price level is lower.</p> <p>Price Level decreases – Price level decreased from PL1 to PL2. A price level decrease caused by decreased production costs or increased productivity do not usually cause the problems associated with deflation from demand shifts since producers have a lower cost of production.</p>	
<p>Decrease in Aggregate Supply – Decreases in aggregate supply can occur when changes in the economy increase the costs of production or decrease productivity for industries throughout the country, forcing producers to supply a fewer number of final goods and services at all price levels.</p> <p>Real GDP decrease – The change from Y1 to Y2 means more less</p>	
<p>employment in the short-run. This change indicates the economy is contracting in the short-run.</p> <p>Price Level increases – Price level increased from PL1 to PL2. This economic condition when an increase in the price level occurs with a decrease in Real GDP and employment is stagflation. It is difficult to recover because prices are high at the same time as incomes are falling. There is little incentive to spend and high incentive to save.</p>	

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d. Give examples of who benefits and who loses from unanticipated inflation.

One of the reasons price stability is good for an economy is that it allows households, firms, governments, and the financial sector to make decisions in the present with confidence about the price level in the future. Two groups with an eye on changes in the price level are borrowers and lenders. Households, firms, governments, and financial institutions act as borrowers in the economy. Households take loans for major purchases like cars, college, and homes. Firms borrow to cover expenses in difficult times and to expand operations when the future looks bright. Governments borrow to fund shortfalls in tax revenue needed to provide public goods and services to citizens. Even financial institutions borrow overnight funds to cover their reserve requirements and take longer-term loans to fund expansion projects. All of the sectors act as lenders too. Anyone who holds a bond has lent funds to one of these sectors. Households, businesses, and banks lend to government when they buy Treasury or Municipal bonds. They lend to businesses when they buy corporate bonds. The price of borrowing money is the interest charged over the life of the loan. When lenders make a loan, they agree to a price for the loan. When making loans at fixed rates, an unanticipated rise in price level by more than the lender anticipated hurts the lender since the money repaid will have less purchasing power. **Unanticipated inflation** hurts lenders who lend at fixed rates. Borrowers who borrow at fixed rates will benefit from unanticipated inflation. Their interest rates remain stable as price rise and they pay back their loan with money that has less purchasing power than the money they borrowed.

e. Identify seasonal, structural, cyclical, and frictional unemployment.

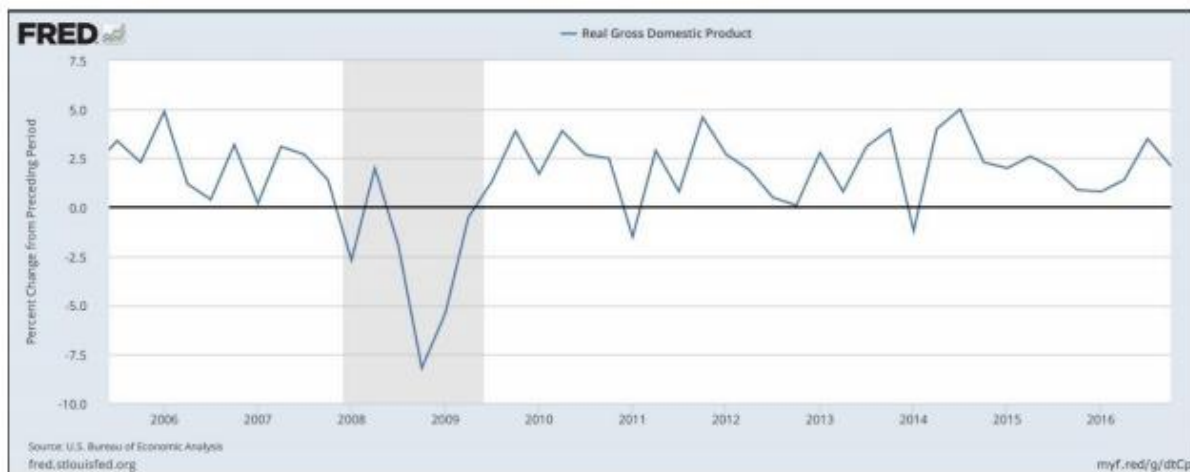
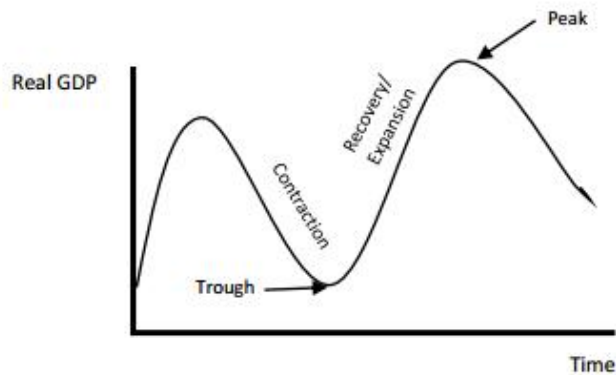
Full employment does not mean the country's unemployment rate is zero percent. Certain types of unemployment always exist even during the best economic times. There are four main types of unemployment. Three out of the four types are long-run unemployment because the rate of unemployment for these types are relatively stable over time. The fourth type is short-run because in good economic times it may be close to zero. It is the short-run type of unemployment that most often targeted by economic stabilization policies. The chart below describes the four types of unemployment.

Type of Unemployment	Description	Short or Long Run	Example
Cyclical	The cyclically unemployed are unemployed due to a downturn in overall economic activity. If the economy expanded again, these workers would be able to go back to work.	Short-run	Thousands of restaurant workers lose their jobs because a recession has reduced the number of consumers who can afford to eat out.
Frictional	The frictionally unemployed are unemployed because they are graduating from high school or college, looking for better working conditions, or seeking a higher wage.	Long-run	In May, thousands of college graduates enter the labor market looking for their first professional job. This happens every May, year after year.
Structural	Structurally unemployed people are unemployed because their human capital does not match the needs of employers hiring in the labor market.	Long-run	Thousands of high school students graduate without the literacy and math skills needed by the labor market. This happens every year.
Seasonal (Sub category of structural unemployment)	Seasonally unemployed people are unemployed because employers need their type of human capital during only one part of the year.	Long-run	Agricultural workers seek new jobs when the harvest season is finished.

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f. Define the stages of the business cycle, including: peak, contraction, trough, recovery/expansion as well as recession and depression.

The **business cycle** is an economic model illustrating how economic activity fluctuates over time. The y-axis in the model is Real GDP and the x-axis is Time. The x-axis values are usually months, quarters, or years. The business cycle graph looks a graph of waves from the field of Physics. The graph shows a period of rising Real GDP reaching a high point and then falling until reaching a low. After the lowest point, Real GDP recovers and begins to rise again. The whole cycle repeats itself. The graph below shows the business cycle model. The graph that follows the model shows real data about the U.S. economy.



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SSEMA2 Explain the role and functions of the Federal Reserve System.

The **Federal Reserve System** is the central bank for the United States. Congress created the Federal Reserve in 1913 to provide stability for the U.S. financial system after the country experienced a series of severe financial crises. The Federal Reserve's role in the economy includes conducting monetary policy, maintaining the stability of the financial system, supervising and regulating financial institutions, fostering a safe and efficient payments system, and promoting consumer protection and community development. Study of the Federal Reserve in this course includes: explaining the role and function of money, describing the organization of the Federal Reserve System, defining monetary policy and its tools, and describing how the Federal Reserve uses monetary policy to promote its dual mandate of price stability and full employment.

a. Explain the roles/functions of money as a medium of exchange, store of value, and unit of account/standard of value.

Throughout history, money has taken many forms. We have used items like shells, animal skins, and precious metals as money. Money is what money does. Any item that serves the three main functions of money efficiently is good money. In most economies today, we use a type of money called fiat money. Fiat money is the official money issued by the government of a country. In most cases today, a country's money works because of trust in the good faith and credit of the country's government. As long as people are willing to accept a country's money as a method of payment, the money functions effectively. Maintaining confidence in the U.S. monetary system is an important role of the Federal Reserve. For money to have value, people must believe it has value and it must serve the following three functions: medium of exchange, store of value, and unit of account (standard of value). Money used as a **medium of exchange** facilitates transactions between individuals, businesses, financial institutions, and governments in an economy. When a household wants to purchase groceries, it will use money to facilitate the transaction. The household could use cash, write a check, or swipe a debit card linked to a checking account. All of these methods of payment involve using money as a medium of exchange. The money payment people earn is income. Many people today receive this money payment through direct deposit into a checking account. After receiving their money payment, most people will designate some of the money for spending and some of the money for saving. When people hold money as savings for purchases sometime in the future, money functions as a **store of value**. People avoid holding savings if they fear a loss of purchasing power in the future. The belief that money saved today will purchase a similar amount of goods and services in the future is the function store of value. Money also functions as a guide. In the United States, the dollar is our unit of currency. When we look at our bank account balance or shop for goods and services, we see an amount expressed in dollars. This allows us to compare prices and determine whether we have enough in our account to make a particular purchase. This function of money is **unit of account** (or standard of value).

b. Describe the organization of the Federal Reserve System (12 Districts, Federal Open Market Committee (FOMC), and Board of Governors).

The Federal Reserve System is unique among the world's central banks for its decentralized structure and its public/private nature. In the Federal Reserve Act of 1913, Congress called for a decentralized structure with a maximum of 12 district banks located throughout the country. The district banks are the private part of the system and the Board of Governors is the public part. District banks operate under the direction of a private board representing banking, business and community organizations

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throughout the district. A selection committee of non-banker board members select the president of the district banks. The president and his or her professional staff are employees of the district and run the day-to-day operations of the district banks. The President of the United States nominates members of the Board of Governors and the U.S. Senate confirms them. They are the public part of the system. The **Federal Open Market Committee (FOMC)** is the monetary policy making body of the Federal Reserve System. When fully staffed, the FOMC includes the seven members of the Board of Governors and the 12 district bank presidents. Only five of the twelve district bank presidents are voting members of the FOMC at any one time. The New York District president always votes. The other four voting spots rotate among the remaining eleven district presidents.

c. Define monetary policy

According to the Federal Reserve's 2016 edition of Purposes and Functions, "monetary policy is the Federal Reserve's actions, as a central bank, to achieve three goals specified by Congress: maximum employment, stable prices, and moderate long-term interest rates in the United States."

d. Define the tools of monetary policy including reserve requirement, discount rate, open market operations, and interest on reserves.

According to the Federal Reserve Board of Governors, there are currently seven tools of monetary policy available to the Federal Open Market Committee. For the purposes of this course, you must define four of these tools.

- 1. Reserve Requirement:** The Federal Reserve requires most financial institutions to keep a percentage of customer deposits in vault cash or as a deposit in their account with the Federal Reserve. Banks cannot lend these reserves. In theory, if the Federal Reserve raised or lowered the reserve requirement, it would change the supply of money in the economy. However, the Federal Reserve rarely uses this tool.
- 2. Interest on Required and Excess Reserves:** On October 1, 2008, Congress authorized the Federal Reserve to begin paying interest on the required and excess reserves of financial institutions. Prior to this change, financial institutions gained no return on their required reserves, acting as an implicit tax. Now, they earn a return on required reserves as well as any excess reserves they want to hold with the Federal Reserve. Financial institutions weigh the choice between earning interest on excess reserves from the Fed with the option to earn interest by loaning excess reserves to customers. If the Federal Reserve changes the interest rate on excess reserves, it changes the incentive financial institutions have to keep their reserves with the Fed, increasing or decreasing the money supply.
- 3. Discount Rate:** One role the Federal Reserve plays in the economy is the "lender of last resort." If financial institutions cannot borrow from each other, they may need to borrow from the Federal Reserve. The interest rate charged by the Fed, when lending to a financial institution, is the Discount Rate. When the Fed raises or lowers the discount rate, it is sending a signal to financial institutions telling them to increase or decrease their lending activity, affecting the money supply.
- 4. Open Market Operations:** At each Federal Open Market Committee meeting, members vote to raise, lower, or maintain their target for an interest rate called the Federal Funds Rate (FFR). The FFR is the rate financial institutions charge each in the overnight lending market. The Fed targets the rate by buying or selling government bonds through primary dealers in the open market. As

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the FFR rises or falls, the incentives for financial institutions to borrow from each other changes, affecting the money supply.

e. Describe how the Federal Reserve uses the tools of monetary policy to promote its dual mandate of price stability and full employment, and how those affect economic growth.

The Federal Reserve uses monetary policy to achieve its congressionally mandated goals of price stability and full employment. The following chart shows how each of the four policy tools are used to achieve these economic goals and how economic growth is likely to be affected.

Tool	Action	When is the Fed most likely to use it?	Effect the Money Supply	Effect on Price Level, Real GDP, & Unemployment
Reserve Requirement	Increase the reserve requirement	When concerned about inflation (Price Stability)	Money supply would decrease	Price Level falls Real GDP falls Unemployment rises
	Decrease the reserve requirement	When concerned about contraction or recession (Full Employment)	Money supply would increase	Price Level rises Real GDP rises Unemployment decreases
Interest on Required & Excess Reserves	Increase the interest rate on reserves	When concerned about inflation (Price Stability)	Money supply would decrease	Price Level falls Real GDP falls Unemployment rises
	Decrease the interest rate on reserves	When concerned about contraction or recession (Full Employment)	Money supply would increase	Price Level rises Real GDP rises Unemployment decreases
Discount Rate	Increase the discount rate	When concerned about inflation (Price Stability)	Money supply would decrease	Price Level falls Real GDP falls Unemployment rises
	Decrease the discount rate	When concerned about contraction or recession (Full Employment)	Money supply would increase	Price Level rises Real GDP rises Unemployment decreases
Open Market Operations	Sell government securities on the open market	When concerned about inflation (Price Stability)	Money supply would decrease	Price Level falls Real GDP falls Unemployment rises
	Buy government securities on the open market	When concerned about contraction or recession (Full Employment)	Money supply would increase	Price Level rises Real GDP rises Unemployment decreases

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SSEMA3 Explain how the government uses fiscal policy to promote price stability, full employment, and economic growth.

Many individuals and businesses expect government to provide the foundation for a healthy economy and take policy action to stabilize the economy in difficult times. In the United States, government uses fiscal policy to promote price stability during times of inflation and full employment during times of contraction. The fiscal policy tools available to government are changes in government spending and changes in taxes.

a. Define fiscal policy.

The term fiscal policy at the federal level refers to legislation, passed by Congress and signed into law by the President, changing levels of taxation and/or government spending to stabilize the economy. By changing the amount of taxes people pay or the amount of spending by the government, fiscal policy influences economic activity in the circular flow of the economy. State and local governments also use changes in taxes or spending to influence economic activity.

b. Explain the effect on the economy of the government's taxing and spending decisions in promoting price stability, full employment, and economic growth.

Changes in taxation and spending may promote price stability, full employment, and economic growth. During a time of increasing price level, the government may decide to pursue contractionary fiscal policy to curb inflation. The fiscal policy tools used to combat inflation include lowering government spending or increasing taxes. Reducing government spending, fewer firms and workers are earning money from government contracts and jobs. This lowers consumption and investment spending in the economy putting downward pressure on prices and eventually reducing inflation.

When the government wishes to promote full employment and economic growth at a time when price level is not a concern, it will use fiscal policy tools designed to increase consumption and investment spending in the economy. By lowering taxes, government allows people to keep more of their income for spending on goods and services. By increasing government spending, more firms and workers can earn money from government contracts and jobs. Households spend some of this additional income on goods and services, increasing other economic activity.

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The chart below illustrates how changes in government spending and taxes should affect the economy.

Tool	Action	When is the government most likely to use it?	Effect on Economic Activity	Effect on Price Level, Real GDP, & Unemployment
Change in Taxes	Increase taxes	When concerned about inflation (Price Stability)	Economic activity would fall	Price Level falls Real GDP falls Unemployment rises
	Decrease taxes	When concerned about contraction or recession (Full Employment)	Economic activity would increase	Price Level rises Real GDP rises Unemployment decreases
Change in Government Spending	Decrease spending	When concerned about inflation (Price Stability)	Economic activity would fall	Price Level falls Real GDP falls Unemployment rises
	Increase Spending	When concerned about contraction or recession (Full Employment)	Economic activity would increase	Price Level rises Real GDP rises Unemployment decreases

c. Explain how government budget deficits or surpluses impact national debt.

All **budgets** include sources of income and a list of expenses. Income for a government usually comes from two sources: taxes and fees. Expenses include all the public goods and services provided by the government as well as the interest payments the government pay on its debt. The total amount of income the government receives minus the total amount of expenses it pays determines whether a **government's budget** runs a surplus or a deficit. A **surplus** exists when the amount of income received exceeds the amount of expenses paid. A **deficit** exists when the amount of income received falls short of the amount of expenses paid. Governments running a deficit must borrow funds to pay expenses. Anyone who owns a government bond is a lender to that government and is paid interest by the government for the use of their money. Each year, any deficit in the federal government's budget adds to the country's national debt. If interest rates remain the same or increase as the national debt increases, it costs the federal government more each year to pay the interest payments on the debt. If a government runs a surplus in its budget, it can pay down its debt with the surplus funds to reduce the national debt.