

Monetary and Fiscal Policy

Part A

Tools of Monetary and Fiscal Policy

Both monetary and fiscal policy can be used to influence the inflation rate and real output. Indicate what effect each specific policy has on inflation and real output in the short run (nine to 18 months).

Figure 43.1

Monetary Policy	Inflation	Real Output
1. (A) Buy government securities		
(B) Sell government securities		
2. (A) Decrease the discount rate		
(B) Increase the discount rate		
3. (A) Decrease reserve requirement		
(B) Increase reserve requirement		
Fiscal Policy	Inflation	Real Output
4. (A) Increase government spending		
(B) Decrease government spending		
5. (A) Increase taxes		
(B) Decrease taxes		

Part B

Lags in Policy Making

When the economic situation changes, policy makers must decide when to take action and which policy action to take. Then they must implement the policy. The economy then responds to the policy. The amount of time it takes policy makers to recognize and take action is called the *inside lag*. The amount of time it takes the economy to respond to the policy changes is called the *outside* or *impact lag*. The inside lag is estimated to be short for monetary policy but long for fiscal policy. The outside lag is long for fiscal policy because the legislative branch must come to agreement about the appropriate action. The outside lag, however, is long and variable for monetary policy but very short for fiscal policy.

Explain why the inside lag can be short for monetary policy but the outside lag is long and variable.

7. Explain why the outside lag is short for fiscal policy.

8. Explain why lags are important to the discussion of stabilization policy.

Monetary Policy		
Real Output	Inflation	
		1. (A) Buy government securities
		(B) Sell government securities
		2. (A) Decrease the discount rate
		(B) Increase the discount rate
		3. (A) Decrease reserve requirement
		(B) Increase reserve requirement
Fiscal Policy		
Real Output	Inflation	
		4. (A) Increase government spending
		(B) Decrease government spending
		5. (A) Increase taxes
		(B) Decrease taxes

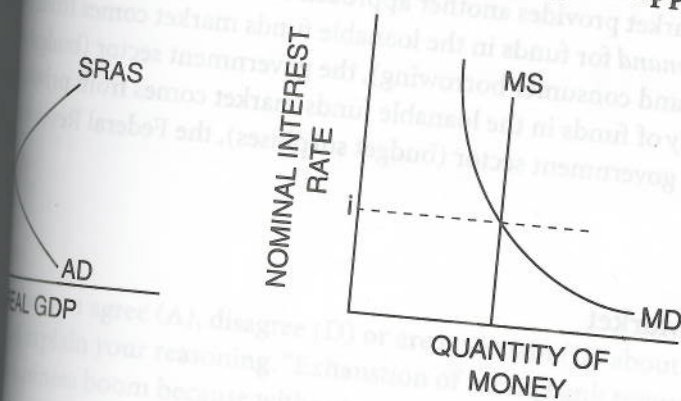
Crowding-Out: A Graphical Representation

Monetary policy and fiscal policy do not exist in separate airtight compartments. Monetary policy can reinforce or accommodate each other, or they can work at cross-purposes. This assumes no changes in the foreign exchange rate, imports or exports.

For example, an expansionary fiscal policy will increase aggregate demand. The expansionary fiscal policy would also increase the demand for money. If the Fed does not increase the money supply, interest rates will rise. Because the government is borrowing money to finance its expansionary fiscal policy, consumers and businesses will be crowded-out of the financial markets. This could lower consumer spending and slow down the economic expansion. On the other hand, if the Fed increases the money supply, interest rates should not rise as much. Of course, increasing the money supply will increase the price level further.

Aggregate Demand and Aggregate Supply Analysis

Using Aggregate Demand and Aggregate Supply Analysis



If the fiscal policy is expansionary and monetary policy keeps the stock of money constant at the initial level, the MS curve in each graph to illustrate the effect of the fiscal policy.

Which curve did you shift in the short-run aggregate demand and aggregate supply graph? What happens as a result of this new curve?

In the money market graph, which curve did you shift to demonstrate the effect of the fiscal policy? What happens as a result of this shift?

(C) Given the change in interest rates, what happens in the short-run aggregate supply and aggregate demand graph?

(D) How could a monetary policy action prevent the changes in interest rates and output you identified in (B) and (C)? Shift a curve in the money market graph, and explain how this shift would reduce crowding-out.

Part B

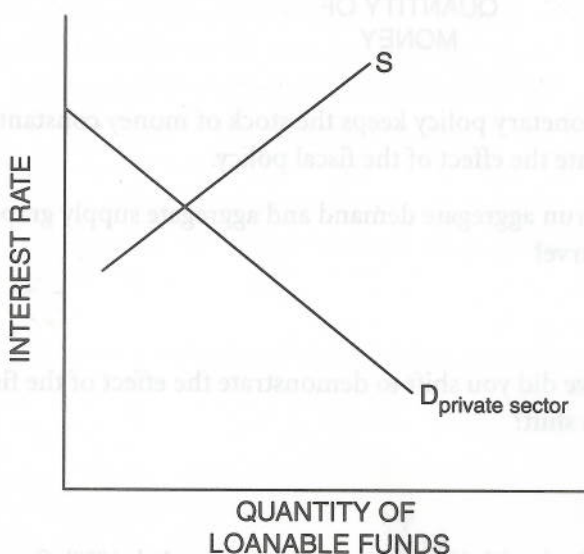
Using the Loanable Funds Market

The loanable funds market provides another approach to looking at the effects of increases in the budget deficit. The *demand* for funds in the loanable funds market comes from the private sector (business investment and consumer borrowing), the government sector (budget deficits) and the foreign sector. The *supply* of funds in the loanable funds market comes from private savings (businesses and households), the government sector (budget surpluses), the Federal Reserve (money supply) and the foreign sector.



Figure 44.2

Loanable Funds Market



2. Shift one of the curves on Figure 44.2 to indicate what occurs in the loanable funds market if government spending increases without any increases in tax revenue or the money supply.

(A) What happens to the interest rate as a result of this expansionary fiscal policy? Explain.

(B) Indicate on the graph the new quantity of private demand for loanable funds.

(C) An accommodating monetary policy could prevent the effects you described in (A) and (B). Shift a curve in the diagram to show how the accommodating monetary policy would counteract the effects of crowding-out. Explain what would happen to interest rates and the level of private demand for loanable funds as a result of this new curve.

Part C

Applications

3. Indicate whether you agree (A), disagree (D) or are uncertain (U) about the truth of the following statement and explain your reasoning. "Exhaustion of excess bank reserves inevitably puts a ceiling on every business boom because without money the boom cannot continue."

Answer the questions that follow each of the scenarios below.

4. The Federal Reserve Open Market Committee wishes to accommodate or reinforce a contractionary fiscal policy.

(A) Would the Fed buy bonds, sell bonds or neither?

(B) What effect would this policy have on bond prices and interest rates?

(C) What effect would this policy have on bank reserves and the money supply?

(D) What effect would this policy have on the quantity of loanable funds demanded by the private sector?

(E) What effect would the change in interest rates you identified in (B) have on aggregate demand?

5. The Federal Reserve Open Market Committee wishes to accommodate or reinforce an expansionary fiscal policy.

(A) Would the Fed buy bonds, sell bonds or neither?

(B) What effect would this policy have on bond prices and interest rates?

(C) What effect would this policy have on bank reserves and the money supply?

(D) What effect would this policy have on the quantity of loanable funds demanded by the private sector?

(E) What effect would the change in interest rates you identified in (B) have on aggregate demand?

Graphing Monetary and Fiscal Policy Interactions

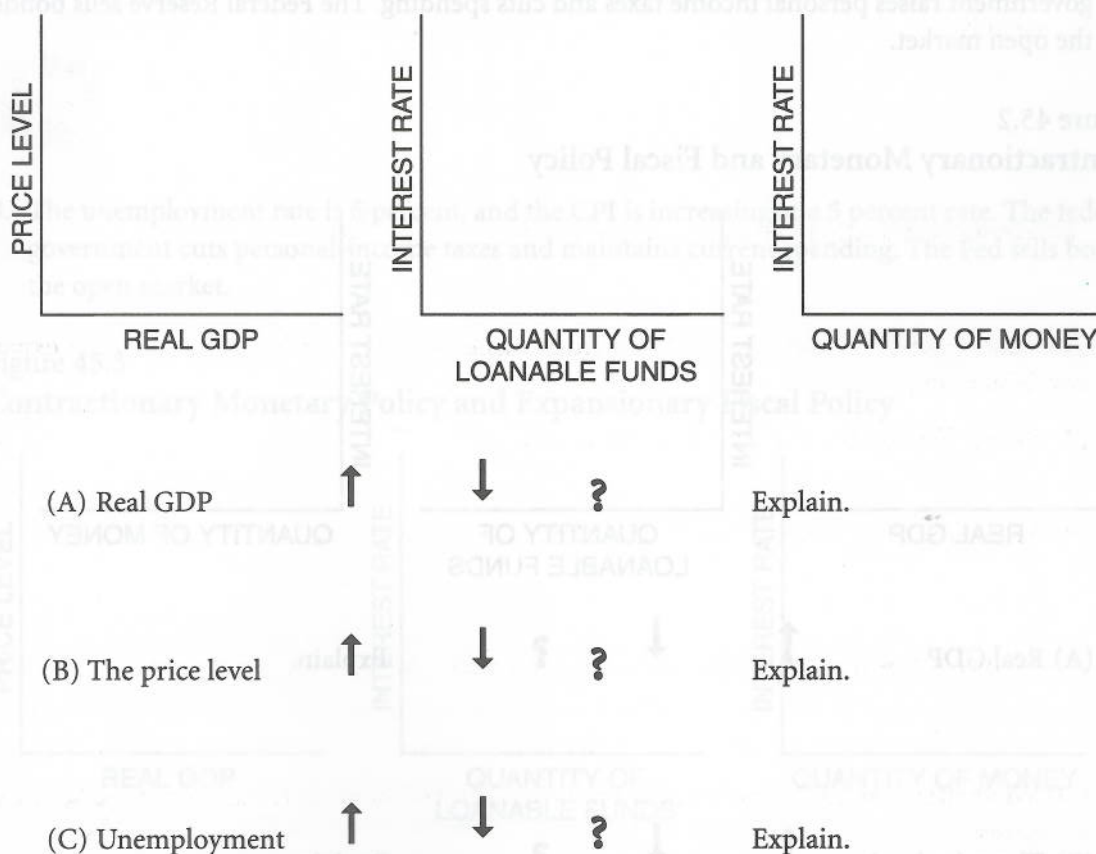
Illustrate the short-run effects for each monetary and fiscal policy combination using aggregate demand and supply curves, the money market and the loanable funds market. Once again, assume that there are no changes in the foreign sector. Circle the appropriate symbols (↑ for increase, ↓ for decrease, and ? for uncertain), and explain the effect of the policies on real GDP, the price level, unemployment, interest rates and investment.

1. The unemployment rate is 10 percent, and the CPI is increasing at a 2 percent rate. The federal government cuts personal income taxes and increases its spending. The Fed buys bonds on the open market.



Figure 45.1

Expansionary Monetary and Fiscal Policy



Activity written by John Morton, National Council on Economic Education, New York, N.Y., with modifications by Rae Jean B. Goodman, U.S. Naval Academy, Annapolis, Md.

(D) Interest rates



?

Explain.

(E) Investment



?

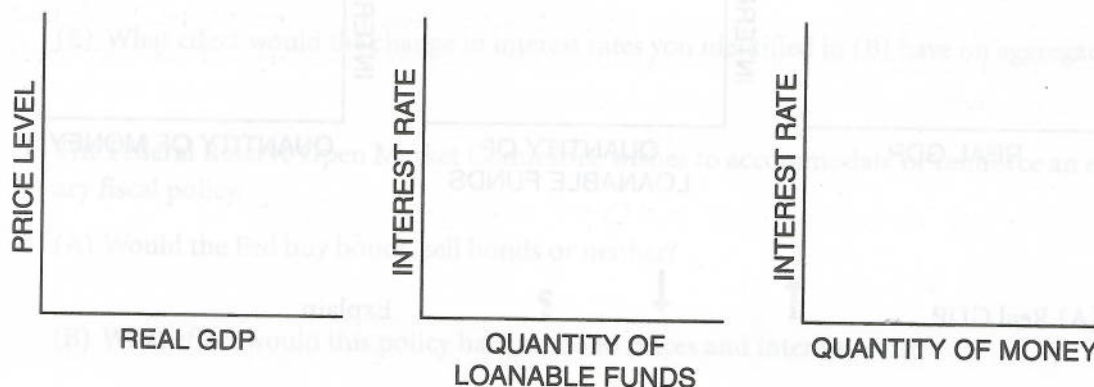
Explain.

2. The unemployment rate is 6 percent, and the CPI is increasing at a 9 percent rate. The federal government raises personal income taxes and cuts spending. The Federal Reserve sells bonds on the open market.



Figure 45.2

Contractionary Monetary and Fiscal Policy



(A) Real GDP



?

Explain.

(B) The price level



?

Explain.

(C) Unemployment



?

Explain.

(D) Interest rates



?

Explain..

(E) Investment



?

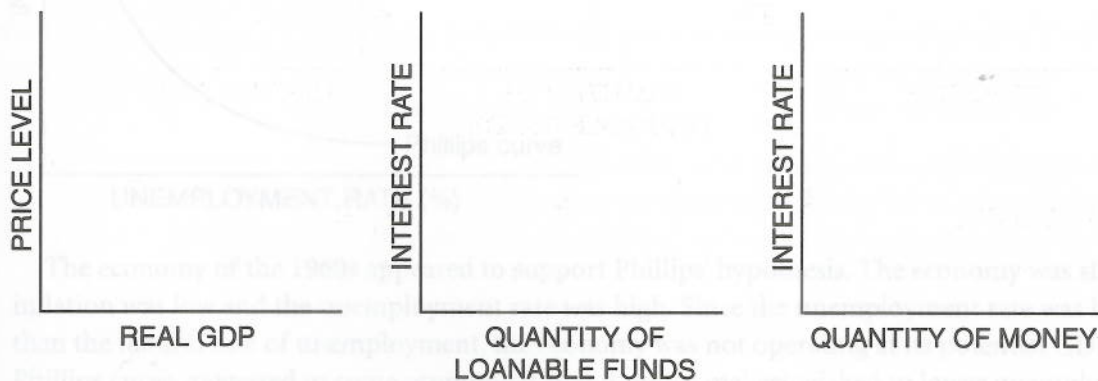
Explain.

3. The unemployment rate is 6 percent, and the CPI is increasing at a 5 percent rate. The federal government cuts personal-income taxes and maintains current spending. The Fed sells bonds on the open market.



Figure 45.3

Contractionary Monetary Policy and Expansionary Fiscal Policy



(A) Real GDP



?

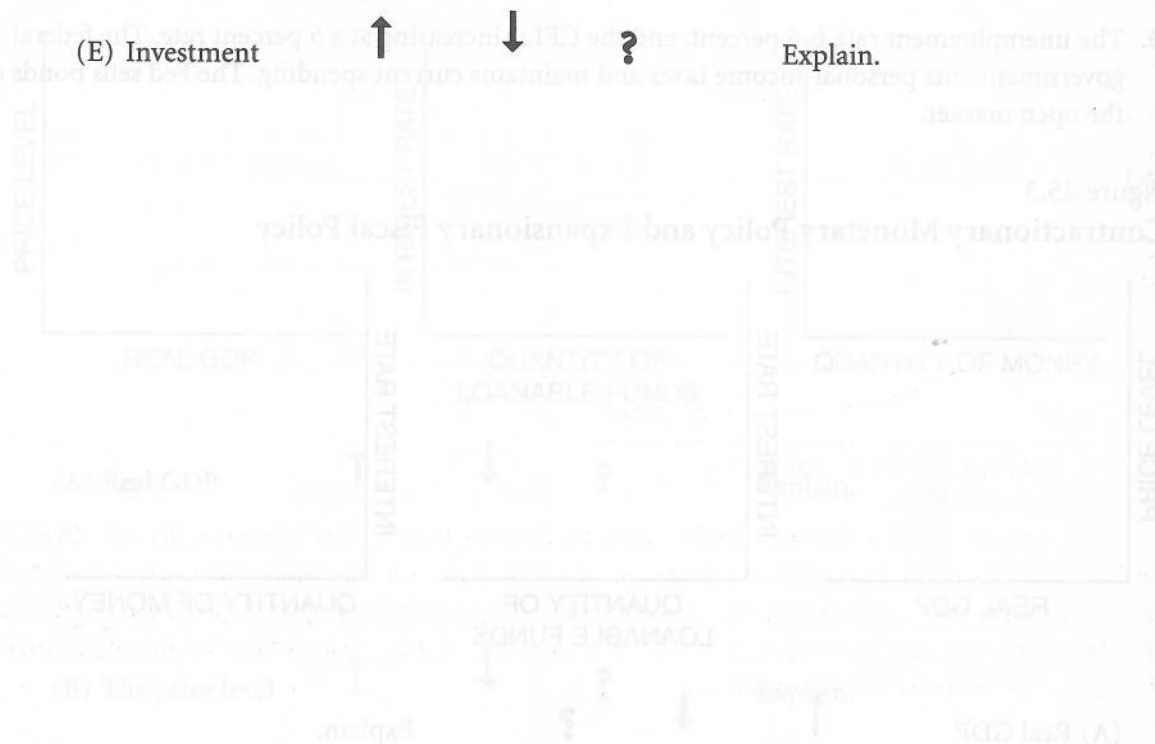
Explain.

(B) The price level ↑ ↓ ? Explain.

(C) Unemployment ↑ ↓ ? Explain.

(D) Interest rates ↑ ↓ ? Explain.

(E) Investment ↑ ↓ ? Explain.



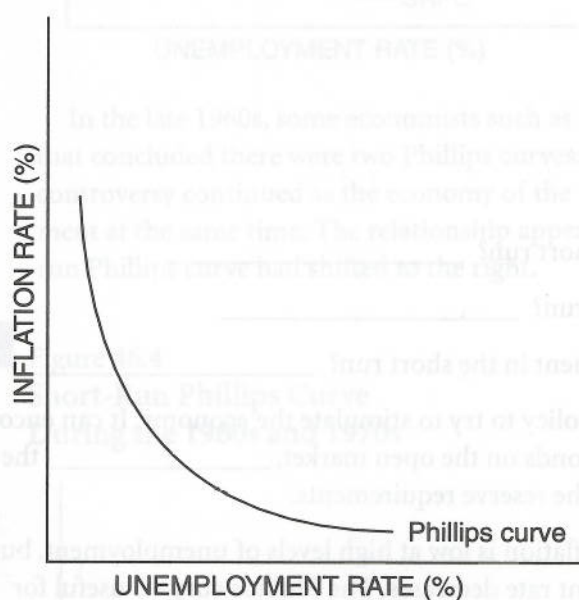
Short-Run Phillips Curve

A.W. Phillips studied the historical relationship between the rate of change in wages and the unemployment rate in the United Kingdom. In 1958 he published his findings, showing an inverse relationship between these variables. In following studies, other economists found that the inverse relationship held when a change in the level of prices (inflation) was used in place of the rate of change in wages. In other words, when inflation increased, the unemployment rate decreased; and when inflation decreased, the unemployment rate increased. A graphic representation of this trade-off became known as the *Phillips curve*.

In Figure 46.1, an example of the Phillips curve illustrates the trade-off between inflation and unemployment, or all of the different possible combinations of inflation and unemployment that exist along the curve.



Figure 46.1
Phillips Curve



The economy of the 1960s appeared to support Phillips' hypothesis. The economy was sluggish, inflation was low and the unemployment rate was high. Since the unemployment rate was higher than the natural rate of unemployment, the economy was not operating at its potential GDP. The Phillips curve suggested to some economists that if policy makers wished to lower unemployment, the trade-off would be higher inflation.

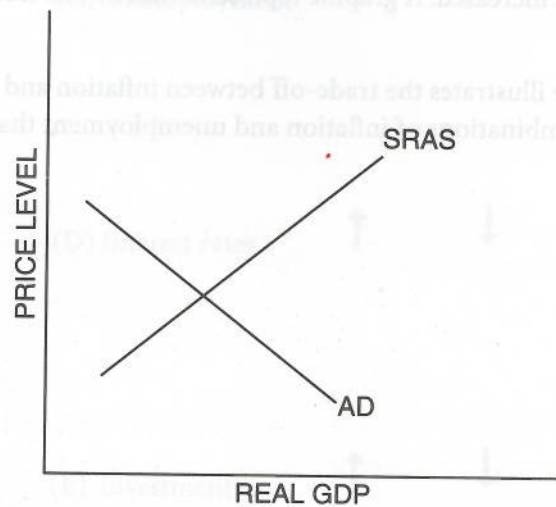
Activity written by Joanne Benjamin, Los Gatos High School, Los Gatos, Calif.

- Suppose government policy makers want to increase GDP because the economy is not operating at its potential. They can increase aggregate demand by increasing government spending, lowering taxes or a combination of both. Using an AD and SRAS model, draw a new AD curve that will represent the change caused by government policy designed to increase real GDP.



Figure 46.2

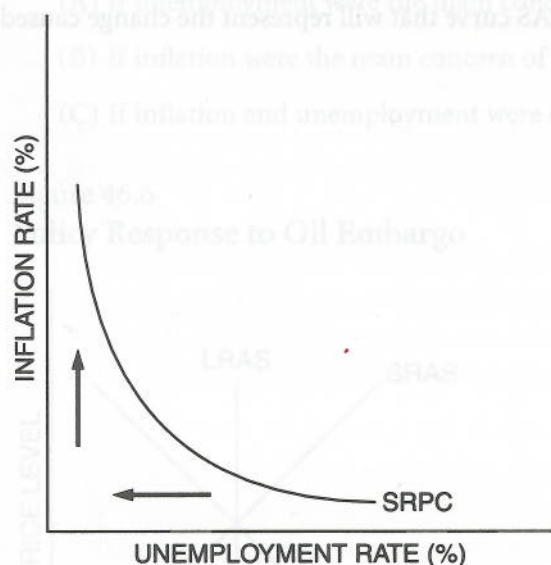
Expansionary Fiscal Policy



- What happens to the price level in the short run? _____
- What happens to real GDP in the short run? _____
- What happens to the rate of unemployment in the short run? _____
- The Federal Reserve can use monetary policy to try to stimulate the economy. It can encourage bank lending by _____ bonds on the open market, _____ the discount rate and/or _____ the reserve requirements.

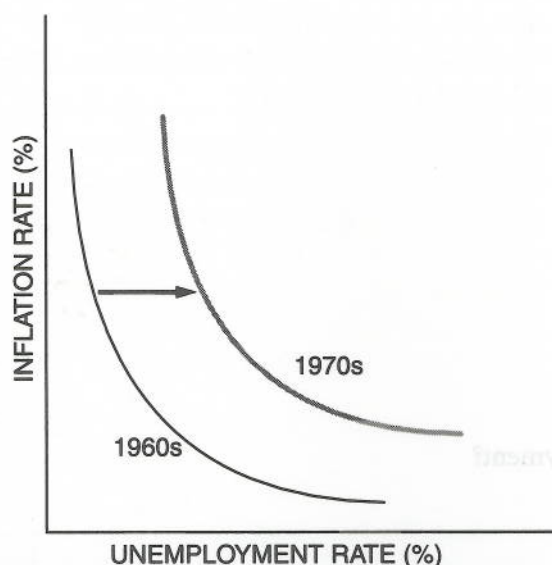
A Phillips curve would tell the same story. Inflation is low at high levels of unemployment, but inflation begins to increase as the unemployment rate decreases. The Phillips curve is useful for analyzing short-run movements of unemployment and inflation. See Figure 46.3.

* Figure 46.3
Short-Run Phillips Curve



In the late 1960s, some economists such as Milton Friedman and Edmund Phelps published papers that concluded there were two Phillips curves: one for the short run and one for the long run. The controversy continued as the economy of the 1970s experienced high inflation and high unemployment at the same time. The relationship appeared to be less stable than previously thought; the short-run Phillips curve had shifted to the right.

* Figure 46.4
Short-Run Phillips Curve
During the 1960s and 1970s

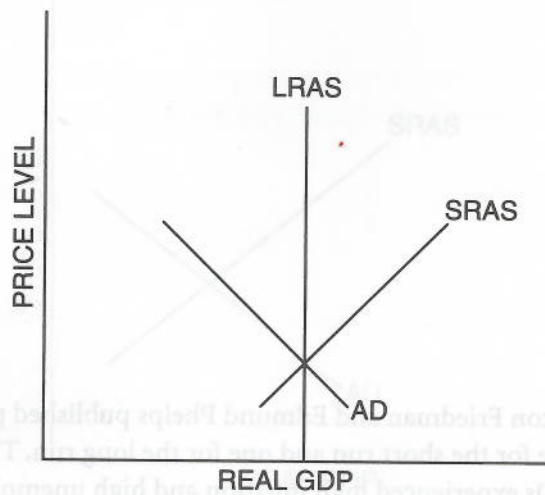


2. Aggregate supply shocks resulting from the oil embargo imposed by Middle Eastern countries (OPEC) and worldwide crop failures helped to bring about higher inflation and higher unemployment rates. The economy, with rising prices and decreased output, was in a state of *stagflation*. Using an AD and SRAS model, draw a new SRAS curve that will represent the change caused by the OPEC oil embargo.



Figure 46.5

Effects of Oil Embargo



(A) In the short run, based on the new SRAS,

- (i) what happens to the price level? _____
- (ii) what happens to real GDP? _____
- (iii) what happens to the rate of unemployment? _____

(B) As the economy moves to the long run,

- (i) what happens to the wage rate? _____
- (ii) what happens to the price level? _____
- (iii) what happens to real GDP? _____
- (iv) what happens to the rate of unemployment? _____

3. Use the AD and SRAS model in Figure 46.6 to show the appropriate policy response to the oil-price increases in the following instances. Be sure to show on the graph the effects of the oil-price increase.

(A) If unemployment were the main concern of policy makers

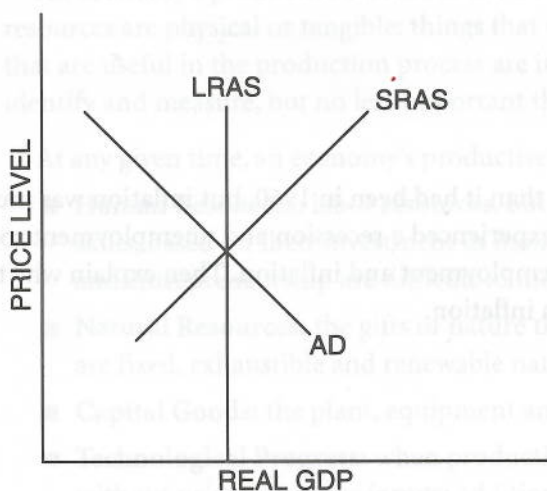
(B) If inflation were the main concern of policy makers

(C) If inflation and unemployment were of equal concern



Figure 46.6

Policy Response to Oil Embargo



4. As inflation in the 1970s continued to increase, economists argued that, for a reduction in money growth to be fully effective in lowering inflation, the Federal Reserve would need to convince people it was serious about reducing money growth — in other words, the Fed would stick with a lower money growth policy until inflation decreased. Why would it be important for the Fed to establish this credibility?

5. In 1980, the unemployment rate was no lower than it had been in 1960, but inflation was much higher. Between 1980 and 1982, the economy experienced a recession and unemployment rose. Explain the general effect of a recession on unemployment and inflation. Then explain why the recession of 1980-82 was accompanied by high inflation.

6. Eventually the OPEC cartel was weakened, and energy prices decreased. Several U.S. industries, including communications and transportation, were deregulated. This caused greater competition. Explain and illustrate the effects of a weakened oil cartel and deregulation using both the aggregate demand and aggregate supply model and the Phillips curve.

Economic Growth and the Determinants of Productive Capacity

The limit of an economy's ability to produce real goods and services is set by the quantity and quality of its basic productive resources and technology. At any given moment, an economy's total productive capacity may be fixed, but over time an economy can increase (or decrease) its capacity to produce real goods and services by increasing (or decreasing) the quantity and/or the quality of its productive resources.

An economy's productive resources can be classified in several different ways. Some of our resources are physical or tangible: things that we can see, count, weigh or measure. Other resources that are useful in the production process are intangible. Intangible resources are more difficult to identify and measure, but no less important than tangible resources.

At any given time, an economy's productive capacity is determined by the quantity and quality of its

- **Human Resources:** labor resources, but not all labor is equal. Different people have different skills, based on their investment in *human capital*. Human capital (education and skill level) and entrepreneurship are difficult to measure.
- **Natural Resources:** the gifts of nature that are useful in producing goods and services. There are fixed, exhaustible and renewable natural resources.
- **Capital Goods:** the plant, equipment and machinery needed to make other goods and services
- **Technological Progress:** when production becomes more efficient, producing more output without using any more inputs: additional capital or labor
- **Public Policy:** the basic social, economic, legal and political values and institutions supported by a society that either aid or hinder efficient markets and the production of goods and services

In practice, economic growth is usually measured by changes in real GDP or, better still, changes in real GDP per capita: gross domestic product per person adjusted for changes in prices. The rate of economic growth is the average annual percentage change in real GDP per capita. Economists use real GDP per capita to measure living standards across time and between countries.

To summarize, economic growth occurs because an economy experiences technical progress, increased investments in physical capital and increased investments in human capital. In the most fundamental sense, economic growth is concerned with increasing an economy's total productive capacity at full employment.

Adapted from Phillip Saunders, *Introduction to Macroeconomics: Student Workbook*, 18th ed. (Bloomington, Ind., 1998). Copyright 1998 Phillip Saunders. All rights reserved. Activity revised by Elaine McBeth, College of William and Mary, Williamsburg, Va.

Part A

Measuring Economic Growth in Hamilton County and Jefferson County



Figure 47.1

Year	Hamilton Real GDP	Hamilton Population	Jefferson Real GDP	Jefferson Population
1	\$2.1 billion	70,000	\$500,000	15
2	2.5 billion	80,000	525,000	16
3	2.8 billion	90,000	600,000	17
4	2.7 billion	86,000	650,000	18

1. Using Figure 47.1 as a reference, fill out the tables in Figures 47.2, 47.3 and 47.4.



Figure 47.2

Time period	Hamilton % Change in Real GDP	Jefferson % Change in Real GDP
From Year 1 to Year 2		
From Year 2 to Year 3		
From Year 3 to Year 4		



Figure 47.3

Year	Hamilton Per Capita Real GDP	Jefferson Per Capita Real GDP
1		
2		
3		
4		



Figure 47.4

Time period	Hamilton % Change in Per Capita Real GDP	Jefferson % Change in Per Capita Real GDP
From Year 1 to Year 2		
From Year 2 to Year 3		
From Year 3 to Year 4		

2. When did Hamilton County experience the largest growth in real GDP? _____

In per capita real GDP? _____

Are these growth rates different? Explain.

3. When did Jefferson County experience the largest growth in real GDP? _____

In per capita real GDP? _____

Are these growth rates different? Explain.

4. The residents of Hamilton County believe they live in a wealthier community than small rural Jefferson County. Based on these numbers, do they? Explain.

Part B

Analyzing the Reasons for Economic Growth

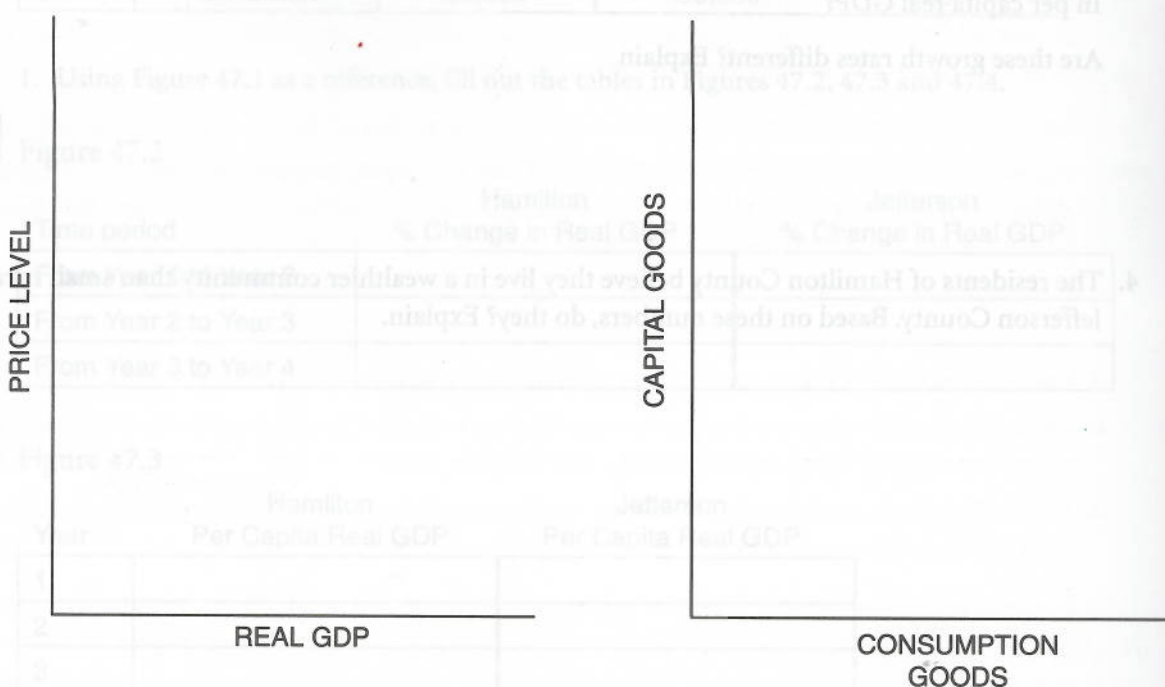
Economic growth can be illustrated by a rightward shift of the long-run aggregate supply curve or a shift outward of the production possibilities curve of consumption goods vs. capital goods.

5. Draw a graph that includes AD, SRAS and LRAS and then draw a graph of a PPC.



Figure 47.5

Relationship Between LRAS and PPC: Increased Investment in Education



(A) On each graph you drew, show the effect of an increased investment in education that makes the work force more productive. Explain your reasoning.

Time period	Hamilton % Change in Per Capita Real GDP	Jefferson % Change in Per Capita Real GDP
From Year 1 to Year 2		
From Year 2 to Year 3		
From Year 3 to Year 4		

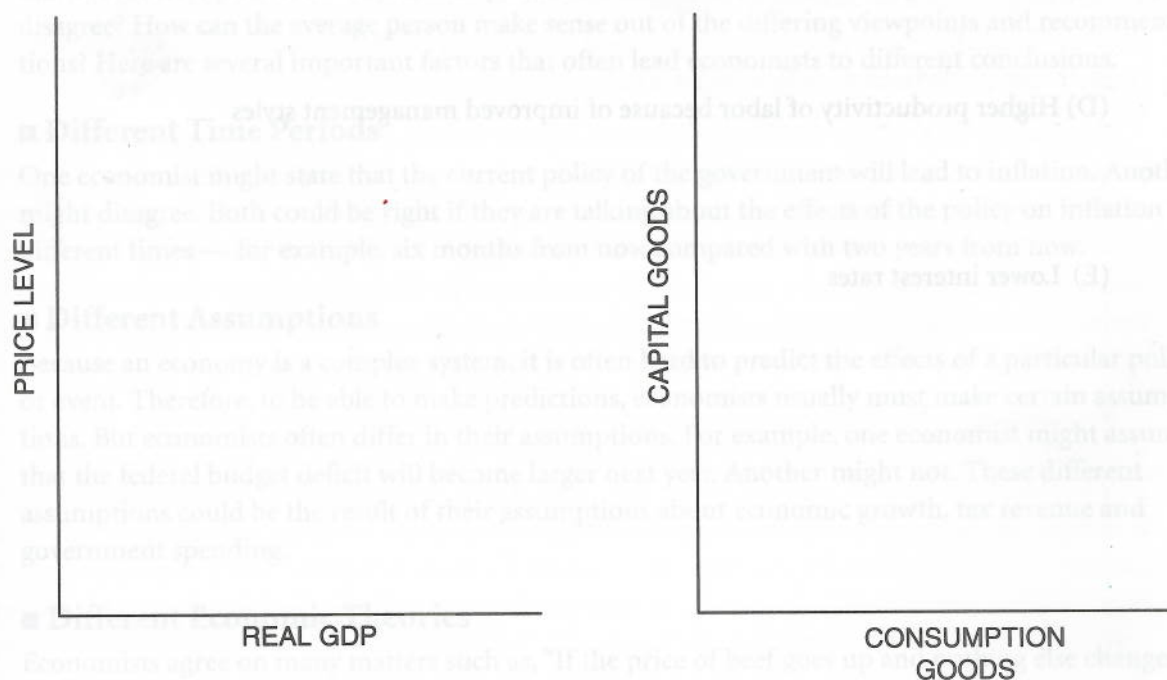
(B) Of the five factors that affect economic growth, which factor is increased by this investment in education?

6. Explain how fewer government regulations will affect economic growth. Cite an example to support your explanation. Show the effect of fewer government regulations on the graphs in Figure 47.6.



Figure 47.6

**Relationship Between LRAS and PPC:
Fewer Government Regulations**



7. Briefly explain how the following policies will affect economic growth and why.

(A) Higher taxes on businesses

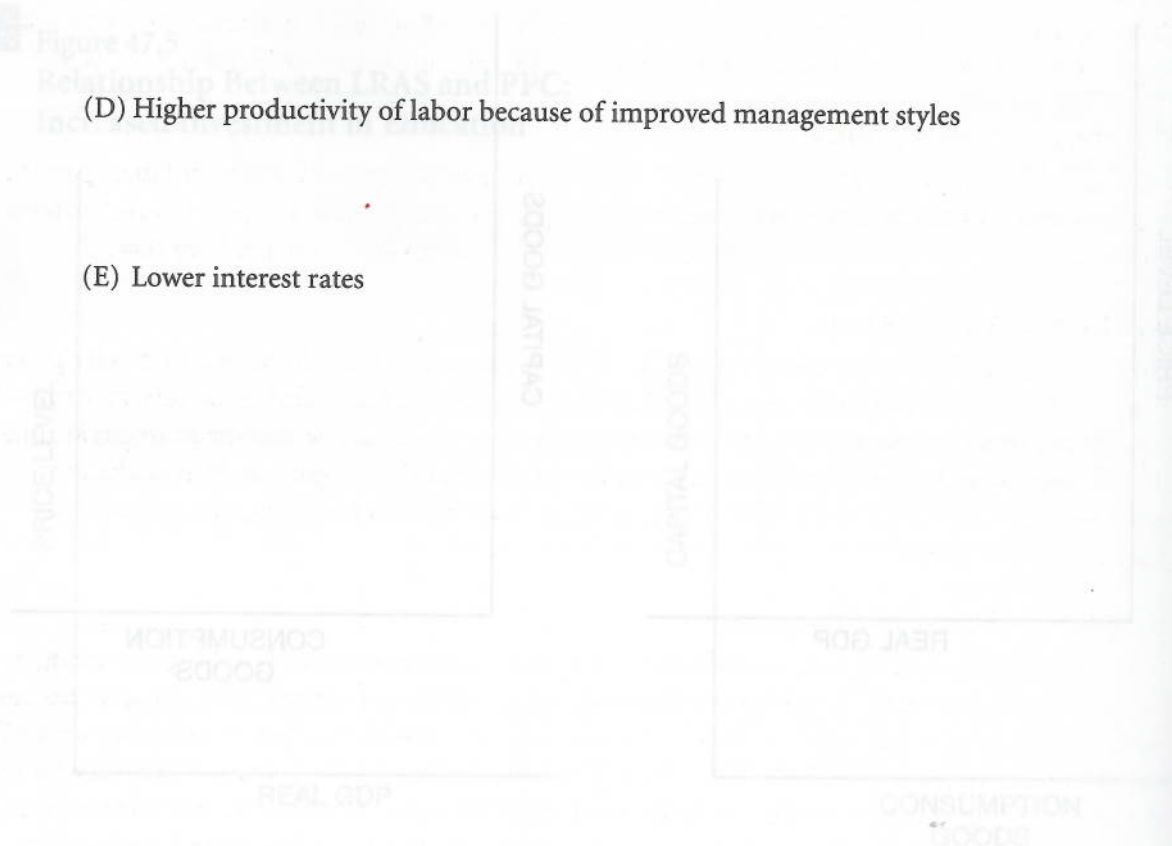
From *Macroeconomics: A Text and Applications*, 10th ed., by John M. Gordon, 2008, Pearson Education, Inc. Copyright 2008 by Pearson Education, Inc. All rights reserved. Printed in the United States of America. This book is published by Pearson Education, Inc., 501 Boylston Street, Boston, MA 02116.

(B) Improvements in technology

(C) Less savings by people who want to enjoy the good life

(D) Higher productivity of labor because of improved management styles

(E) Lower interest rates



Why Economists Disagree

Part A

Understanding the Reasons Why Economists Disagree

It is not unusual to find “experts” disagreeing with each other. Experts disagree about all sorts of matters: nuclear power, environmental protection and who will win the Super Bowl. Why do experts disagree? How can the average person make sense out of the differing viewpoints and recommendations? Here are several important factors that often lead economists to different conclusions.

■ Different Time Periods

One economist might state that the current policy of the government will lead to inflation. Another might disagree. Both could be right if they are talking about the effects of the policy on inflation at different times — for example, six months from now compared with two years from now.

■ Different Assumptions

Because an economy is a complex system, it is often hard to predict the effects of a particular policy or event. Therefore, to be able to make predictions, economists usually must make certain assumptions. But economists often differ in their assumptions. For example, one economist might assume that the federal budget deficit will become larger next year. Another might not. These different assumptions could be the result of their assumptions about economic growth, tax revenue and government spending.

■ Different Economic Theories

Economists agree on many matters such as, “If the price of beef goes up and nothing else changes, people will buy less beef.” This is a prediction with which nearly all economists would agree because it rests on the generally accepted law of demand. However, economists have yet to settle a number of important questions, especially those concerning macroeconomics. Macroeconomics deals with the behavior of the economy as a whole or large subdivisions of it, and how to influence this behavior. Economists have several different theories or explanations about what influences macroeconomic behavior. Until these theories are reconciled or until one of them is widely agreed on as best, economists will disagree on macroeconomic questions because the economists are using different theories. The same applies to certain microeconomic questions.

■ Different Values

Economics is concerned with explaining what is happening in the economy. It is also concerned with predictions. The economist should be able to say to the president or to Congress, “If you follow Policy One, then X, Y and Z will happen. If you follow Policy Two, then Q, R and S will happen. Pick the policy that gives the results you like better.” In practice, such statements by economists often contain more than just analysis and a prediction about results. Their statements often recommend policies they like because the results agree with their own values — in other words, the results they prefer. For

From *Master Curriculum Guide in Economics: Teaching Strategies for High School Economics Courses* (New York: National Council on Economic Education, 1985), p. 158. Modified by John Morton, National Council on Economic Education, New York, N.Y.

example, some economists will recommend Policy One because X, Y and Z will happen and they favor achieving X, Y and Z. Other economists will recommend Policy Two because they favor achieving results Q, R and S. Such disagreements are basically about which outcomes the economists prefer. The economic policies they recommend are determined by their preferred outcomes.

Part B

Listening in on a Discussion of Economists

Four distinguished professors of economics are discussing current economic policy at a luncheon press conference attended by leading reporters of business news. Let's listen in.

Professor T.X. Cut: Let's separate issues. On the fiscal policy side, this administration's budget proposal is not extravagant or inflationary. The tax cuts are partly balanced by spending cuts. With so many people still unemployed and many factories still closed, a policy of this kind cannot rekindle inflation. The tax cuts will stimulate consumer spending, work effort and business investment in an economy just emerging from a recession. We must let people keep the fruits of their labor and sustain savings as incentives to produce and invest more. The spending cuts will prevent government from continuing to receive an ever-increasing piece of the nation's economic pie.

Professor U.R. Nutts: Excuse me, Dr. Cut. But that position makes little sense. First of all, let me say that this administration's tax cuts and spending cuts have been and are grossly unfair. The tax cuts have favored the rich, and the spending cuts have reduced programs that help maintain economic security for Americans with low incomes. The present deficit — and the deficits projected for the future — are so large that they threaten our recovery from the recession. Here's why: All deficits must be paid for by government borrowing, and because the government is borrowing so much money, there is less available for consumers and businesses. With government borrowing now threatening to increase, interest rates will rise and this will reduce spending for houses and cars and, in fact, spending on anything bought with a loan, as well as business investment that must be financed by borrowing. In other words, some important private borrowing will be crowded-out. Sometime next year, the recovery will therefore weaken, and we'll move back into recession. Taxes should be raised, especially on the wealthy, and at least some government programs that help low-income people should be restored to the original funding levels.

Professor E.Z. Money: Let me just comment, U.R., on your point about federal spending and borrowing crowding-out private consumer spending and business investment. This is where monetary policy comes in. The Federal Reserve must continue to allow relatively free expansion of money and credit. If the Fed makes more money available, there will be less pressure for interest rates to rise. We'll be able to sustain the recovery in housing, autos and other sectors. And businesses will be able to get loans for investments at affordable interest rates. Continuing our economic growth by sustaining this recovery is the most important task we have before us. Increasing taxes now would only reduce total spending and thus threaten the recovery.

Professor Fred Critic: Excuse me, Dr. Money. You forget that the expansion of the money supply we're currently witnessing is part of a long history of bungling by the monetary policy makers. Our most recent recession was brought on by the Fed's jamming on the monetary brakes by an abrupt reduction in the increase of the money supply in order to bring inflation under control. They

overdid it, as they always do, and produced a recession. Now, they're overdoing it in the other direction: stepping on the monetary accelerator and increasing the money supply too rapidly. This will stimulate the economy all right, but in a year or two these actions will rekindle inflation. The Fed then will again jam on the monetary brakes and produce yet another recession. Everyone knows this. Interest rates right now are higher than they should be because everyone expects more inflation later. Only moderate growth in the money supply can bring interest rates down in the long run. The only way to get back on a long-term, stable economic growth path is to reduce money growth to a steady, predictable, noninflationary level.

Ladies and gentlemen, that's all the time we have. Let's give our distinguished panel a round of applause.

Part C

Analyzing Disagreements Among Economists

Economists disagree for the following reasons:

- Because they evaluate the impact of policy over different lengths of time.
- Because they make different assumptions.
- Because they have different theories about how the economy works.
- Because they have different values and ideas about which economic goals are most important.

Now analyze each professor's comments in Part B, using the format on the next two pages.

Professor T.X. Cut

Major point:

Time period:

Assumptions:

Theoretical support:

Values:

Professor U.R. Nutts

Major point:

Time period:

Assumptions:

Theoretical support:

Values:

Professor E.Z. Money

Major point:

Time period:

Assumptions:

Theoretical support:

Values:

Professor Fred Critic

Major point:

Time period:

Assumptions:

Theoretical support:

Values:

4. To counter the crowding-out effect on interest rates caused by the government's deficit spending, the Federal Reserve can

- (A) cut tax rates.
- (B) increase tax rates.
- (C) decrease the discount rate.
- (D) increase the reserve requirement.
- (E) buy bonds through open market operations.

5. Which of the following would best promote long-run economic growth?

- (A) A leftward shift of the aggregate demand curve
- (B) A rightward shift of the aggregate demand curve
- (C) A leftward shift of the long-run aggregate supply curve
- (D) A leftward shift of the short-run aggregate supply curve
- (E) A rightward shift of the long-run aggregate supply curve

6. An increase in which of the following would be most likely to increase long-run economic growth?

- (A) Taxes
- (B) Interest rates
- (C) Consumer spending
- (D) Productivity
- (E) Value of domestic currency