

Objectives for Chapter 24: Monetarism (Continued)

At the end of Chapter 24, you will be able to answer the following:

1. What is the “*short-run*”?
2. Use the **theory of job searching** in a period of unanticipated inflation to explain the **short-run** Phillips Curve as well as the shifts that occurred in the 1970s and 1980s.
3. Then, use the same theory to explain what will result in the *long-run*.
4. Explain what would occur if the government or Federal Reserve tried to keep the unemployment rate **permanently below** the natural rate. (This applies especially to the period of the late 1960s.)
4. What is the *long-run Phillips Curve*? How is it different from the short-run Phillips Curve?
5. Why is the long-run Phillips Curve **vertical**?
6. How does the long-run Phillips Curve relate to **the long-run aggregate supply curve**?
7. According to **the acceleration hypothesis**, a recession is needed to lower inflation. Explain why.
8. Explain what will result if actual unemployment is above the natural rate and the government or the Federal Reserve stimulates aggregate demand.
9. Describe the most important difference in the views of the Keynesian economists and the Monetarist economists in the 1960s, 1970s, and 1980s.
10. In what ways have the Keynesian economists and the Monetarist economists come to agreement in the 1990s.

Chapter 24: The Basic Theory of Monetarism (Continued) (latest revision October 2004)

In the previous chapter, we focused on the Monetarist economists’ description of the job search process. Let us review this briefly. Basically, each job searcher has a **reservation wage** --- the lowest wage he or she will accept. That reservation wage declines over time when he or she cannot find a job at that wage. The reservation wage also declines over time when he or she begins to run out of funds. It takes time to find **wage offers**. But as the job search process continues, he or she will find better and better wage offers. Eventually, he or she will find a job that offers a wage that he or she is willing to accept. He or she takes the job and is no longer unemployed. The amount of unemployment explained by this process is called the **natural rate of unemployment**. The reservation wage depends on many variables. One of these variables is expected inflation; **the more inflation people expect in the near future, the higher is the reservation wage now**. In this chapter, we will assume that expected inflation is based on **adaptive expectations**. That is, we will assume that **people base their expectation of future inflation on the inflation that is occurring now and has been occurring in the recent past**. The assumption of adaptive expectations leads to two new concepts that the Monetarist economists use to explain the recent economic history of the United States: **the short-run and the long-run**. Let us begin with the short-run.

1. The Short-Run

As their name implies, according to Monetarist economists, a change in economic behavior requires a change in the money supply. So let us begin our explanation by assuming that there is an **increase in the money supply**. The Federal Reserve buys Treasury Securities in the open market. As a result, what will happen to interest rates (increase or decrease)? As we saw in the previous chapter, when the Federal Reserve increases the money supply, **interest rates will decrease**. When interest rates decrease, what happens to consumer spending and to business investment spending (increase or decrease)? The answer is that they increase. When interest rates decrease, what happens to the value of the American dollar (it appreciates or depreciates)? The answer is that it depreciates. When the American dollar depreciates, what happens to American net exports (increase or decrease)? The answer is that they increase as American exports increase and American imports decrease. So, **the increase in the money supply causes consumer spending, business investment spending, and net exports to increase**. As a result, what happens to aggregate demand (increase or decrease)? **Aggregate demand (total spending) increases**. This process is known as the *Transmission Mechanism*. It was explained in detail in the previous chapter.

Let us continue with this story. When aggregate demand (total spending) increases, people in the stores notice that their goods and services are selling faster. They have fewer goods on hand in the stores and in the warehouses. We say that *inventories are falling*. When inventories are falling, the stores make contact with the manufacturers to have more goods and services shipped to them. We say that *New Orders from Manufacturers are rising*. (Inventories and New Orders from Manufacturers are key *Leading Indicators*, as we saw in Chapter 3.) When manufacturers get these new orders, they desire to fill them. **This means that they desire to produce more goods and services**. To produce more goods and services, manufacturers need more workers. If we assume that the economy is experiencing the natural rate of unemployment, the only way manufacturers can hire more workers is to **offer higher wages**. Of course, if you are offering higher wages to my workers, I will also have to offer them higher wages if I wish to keep them. So overall, **wage offers rise**. These higher wages represent an increase in a major cost of production for the companies. The profits of the companies will decline unless they do something to get this money back -- **raise their prices**.

Let us summarize this sequence:

The Federal Reserve increases the money supply by buying Treasury Securities

Interest rates fall

Consumer spending, business investment spending, and net exports all rise

Aggregate demand (total spending) rises

Inventories fall

New Orders from Manufacturers rise

Manufacturers desire to increase their production

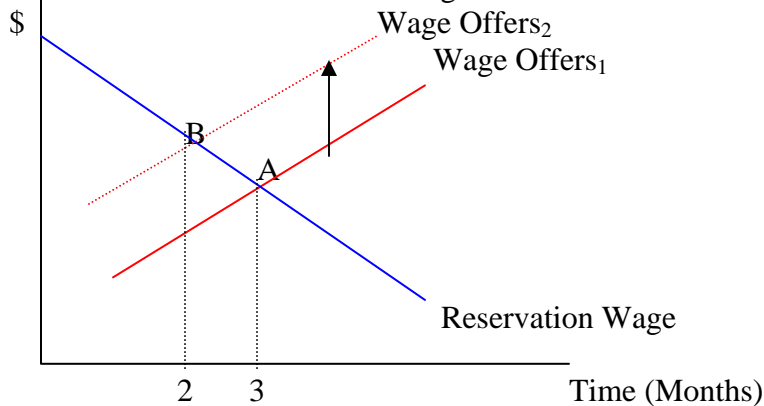
To do so, manufacturers desire to hire more workers

To attract the workers, manufacturers raise their wages

To compensate for the higher wages they must pay, manufacturers raise prices

It is here that the concept of the short-run becomes important to the Monetarist economists' explanation. Remember that expectations of inflation are **adaptive**; the expectations are based on what has been happening in the present and recent past. If there has been no inflation, people will expect no inflation. But as we saw, there indeed will be inflation as manufacturers raise prices. **So, the people are fooled by the inflation. They expect less inflation than will actually exist. The short-run is defined as the time period during which people are fooled by the inflation.**

Let us return to the process of job search. John is out looking for a better-paying job. As we saw above, the wage offers that are available were increased as the companies tried to attract new workers. John will see these higher wage offers. But John is not yet aware of the inflation that is coming.

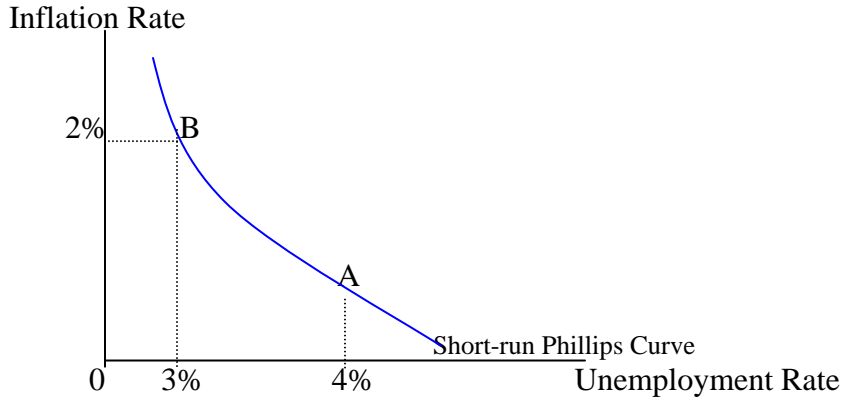


What John knows is that in two months, someone offered him a job that he was willing to accept. So he is unemployed only two months instead of three months. John probably does not know that this is good, as John does not know how long the job search process usually takes. If John did know that he was unemployed an unusually short time, he might think he was lucky. Of course, his interpretation is not correct. **He is actually unemployed for an unusually short time because the wages in the job he took are not really going to be as good as he thinks.** Prices are going to rise. John will not be able to buy all of the things that he anticipates he will buy now that he has a new job. John will learn this later as prices rise. But he does not know this yet.

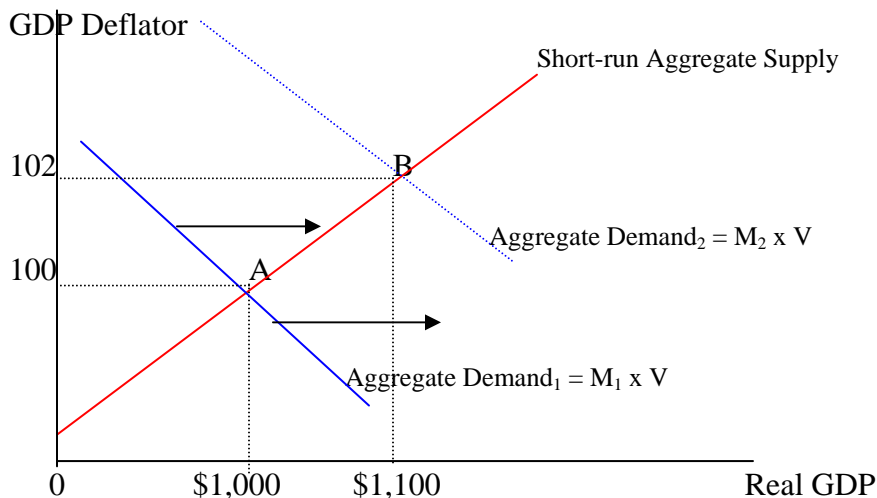
If the people who are searching for a job are unemployed for two months instead of three months, what happens to the unemployment rate? The answer is that it decreases. People are now working rather than being unemployed. **The unemployment rate falls below the natural rate of unemployment.** If unemployment is falling, what is happening to Real GDP (production)? The answer is that Real GDP (production) is rising. If people are working, rather than spending their time searching for a new job, then they are producing goods and services. Since we began the story at Potential Real GDP, **the Real GDP has risen above the Potential Real GDP.** Remember that the difference between the new actual Real GDP and the Potential Real GDP is called the **Gap**. Since the actual Real GDP is now greater than the Potential Real GDP, we have **an inflationary gap**. This should be no surprise as we have already said that the economy will soon be experiencing inflation.

It is the idea people are fooled by the inflation that monetarists use to explain the existence of the Phillips Curve. The Phillips Curve says that there is a trade-off between

inflation and unemployment. Because this is a phenomenon of the short-run, it is called the *short-run Phillips Curve*. As was described above, **the increase in the money supply is the cause of the greater inflation. And the idea that job searchers are fooled by the inflation into taking jobs in a shorter period of time is the cause of the decrease in unemployment.** The movement from Point A to Point B on the Phillips Curve reflects the movement from Point A to Point B on the graph of the Job Search Process above. (4% is the natural rate of unemployment.)



It is also the idea people are fooled by the inflation that monetarists use to explain the existence of the *Aggregate Supply Curve*. The Aggregate Supply Curve shows that, as the price level rises, the Real GDP (production) rises. Again, because this is a phenomenon of the short-run, it is called the *short-run Aggregate Supply Curve*. As was described above, the increase in the money supply is the cause of the rise in prices. And the idea that job searchers are fooled by the inflation into taking jobs in a shorter period of time is the cause of the decrease in unemployment. The decrease in unemployment is the cause of the rise in Real GDP (production). The movement from Point A to Point B on the Aggregate Supply Curve reflects the movement from Point A to Point B on the graphs of the Job Search Process and on the Phillips Curve above. (\$1,000 is the Potential Real GDP.)



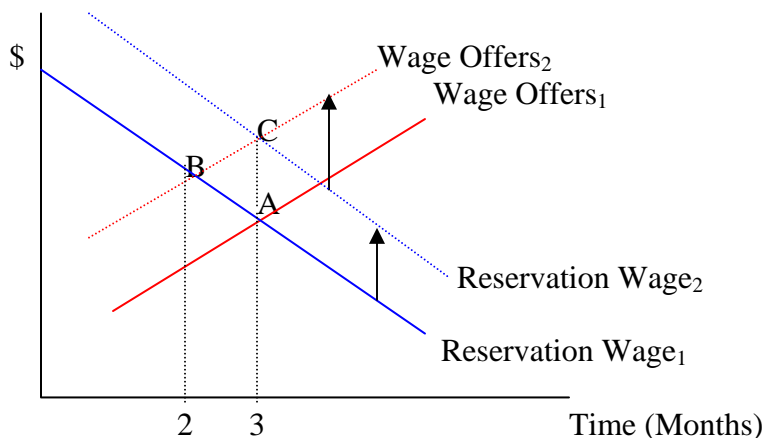
So now we have provided an explanation for the first question raised earlier: why does

the Phillips Curve (or Aggregate Supply curve) exist?

2. The Long-Run

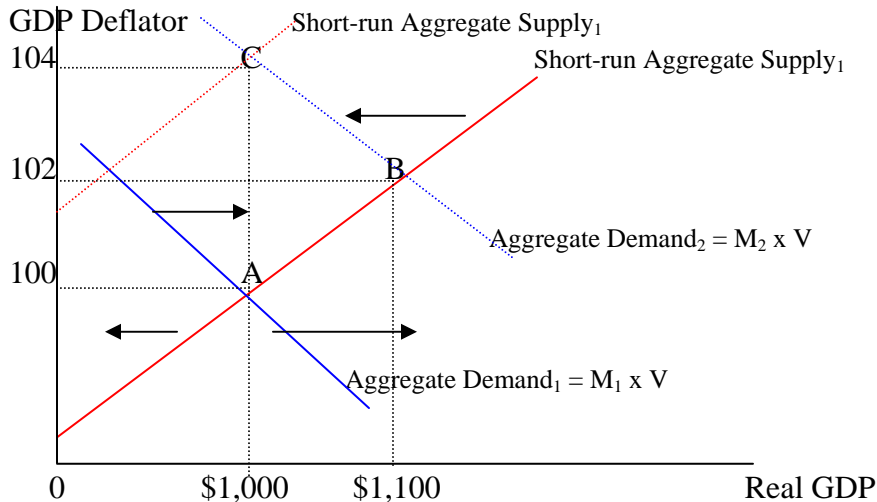
As has been said, you can't fool all of the people all of the time. **Eventually, people will catch-on to the fact of inflation.** If the inflation rate is quite low, this may take some time. But John will come to realize that he can't buy all of the things he thought he could buy because of his new job. The food bill is a little higher. The rent was raised a bit. The gas and electric bill is a little higher. And so on. **The time period by which people catch-on to inflation is called the long-run. At this time, the expected inflation rate is equal to the actual inflation rate.** Remember that expectations are adaptive. We only expect inflation after we have seen it. **Now that prices have been rising, people come to expect rising prices in the near future.**

What does John do when he comes to expect higher rates of inflation? The answer is that he asks for a raise (or quits his job to go look for one with higher pay). He can do this because the unemployment rate is low. Jobs are not hard for him to find. Replacing John might be difficult for his employer. **John's reservation wage has risen.** Assume that the inflation rate is 2% and that John has come to correctly expect a 2% rate of inflation. His reservation wage has risen 2%. Examine the graph. What happens to the time John would be unemployed?

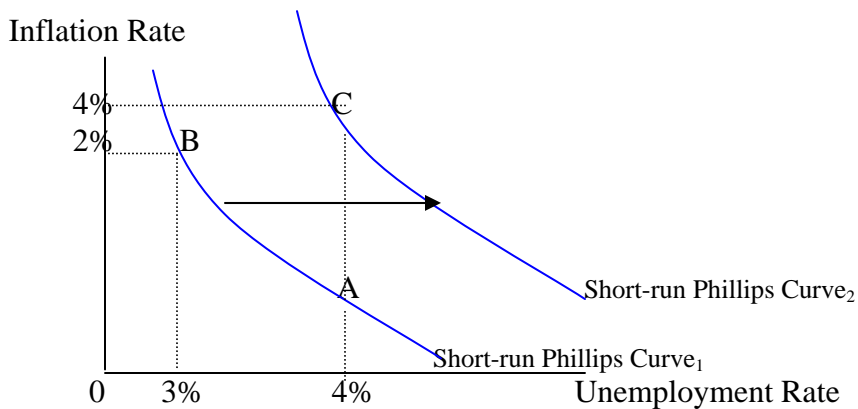


As you can see, **the duration of unemployment rises from the previous two months back to the original three months** (point B to point C). If the duration of unemployment is rising, what is happening to the unemployment rate? The answer is that it is rising. **The unemployment rate rises back to the natural rate of unemployment.**

Notice that the wages are rising. Companies have to pay higher wages to keep employees who are trying to catch-up with the inflation. Higher wages are a cost of production for companies. When costs of production rise, what happens to the short-run aggregate supply? The answer is that it decreases – that is, it shifts to the left.



If the short-run aggregate supply shifts to the left, what happens to the Phillips Curve? The answer is that it **shifts to the right**.



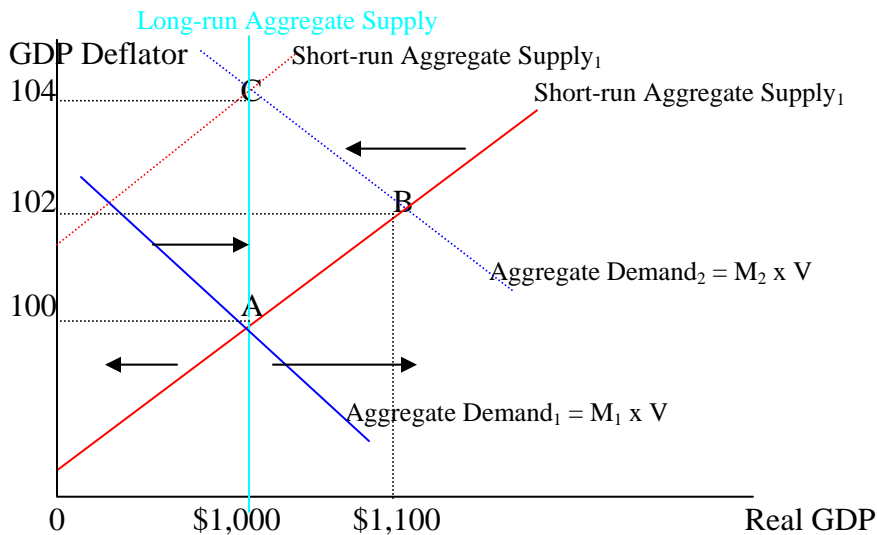
So now we have explained the second question raised earlier. We asked why the Phillips curve had shifted to the right (or why the short-run aggregate supply curve had shifted to the left). **The answer, according to Monetarist economists, was the rise in wages as workers increased their wage requests (*reservation wages*) to make-up for the amount they had lost because of inflation.** That is, the rise in wages as workers tried to restore their real wages once they realized that prices were indeed rising.

Notice that prices are rising (inflation), Real GDP (production) is falling (from \$1,100 back to \$1,000, and unemployment is rising (from 3% back to 4%). We learned earlier that this is called **stagflation (an inflationary recession)**. At the time this was happening (the 1960s and early 1970s), many people blamed the workers. After all, it was their desire for wage increases (possibly expressed through their labor unions) that caused both the recession and the inflation. However, in the interpretation of the Monetarist economists, the workers are not the villains. Indeed, the workers are the victims. They have been victimized by inflation that they did not expect. Because of this unexpected inflation, they saw their real wages decline. They are only demanding the higher wages to make up for what they have lost. In this interpretation, the “villain” is the Federal Reserve for increasing the money supply in the first place.

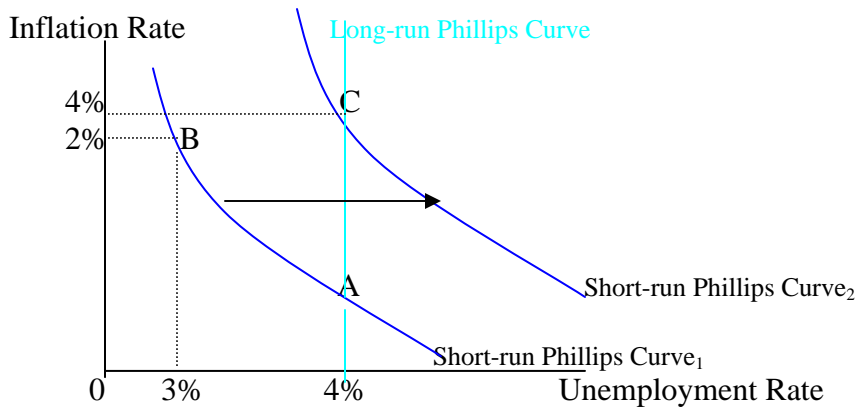
Notice one other result. In the long-run, what is the result of the increase in the money supply? Notice that nothing has happened to Real GDP; it is back where it started (at Potential Real GDP of \$1,000). ***The only result in the long-run of increasing the money supply is an increase in prices (inflation).*** We have encountered this result before. The main conclusion of the Classical Quantity Theory of Money was that an increase in the money supply would cause only inflation. ***So the long-run for the Monetarist economists comes to the same conclusion as that of the Classical Quantity Theory of Money.*** The main difference involves the Monetarist economists' conception of the short-run: the period of time during which people are fooled by the inflation.

What would have happened if people had had ***rational expectations***, instead of adaptive expectations? With rational expectations, people would have realized that the Federal Reserve had increased the money supply. They would know that an increase in the money supply of that magnitude would cause inflation of 2% per year. They would therefore immediately raise their reservation wages (the lowest wage they would accept) by 2%. On our graphs, we would move from point A immediately to point C. There would be no point B. ***That is, there would be no short-run.*** The only result of an increase in the money supply in any time period would be the rise in prices (inflation). The view of the Monetarist economists combined with rational expectations would be the same as the Classical Quantity Theory of Money.

If we connect points A and C (and all other points that would result in the long-run), we have a ***Long-run Aggregate Supply curve***



and a ***Long-run Phillips curve.***



Notice that both of these are **vertical**. This is a very important conclusion. It tells us that *in the long-run (when people are no longer fooled by inflation), there is no trade-off between inflation and unemployment. In the long-run, the economy will operate at Potential Real GDP (and at the natural rate of unemployment). In the long-run, the only result of an increase in the money supply is inflation.* This conclusion contradicted the original conception of the Phillips curve. **It also greatly reduced the power of the Federal Reserve or the government.** It was a very controversial conclusion for a long time. But now, this conclusion has come to be accepted by most economists.

3. The Acceleration Theory

Notice that, as people catch-on to the inflation that is occurring, they increase their wage requests (reservation wages). As their reservation wages rise, they are unemployed for a longer time (now three months) and the unemployment rate rises. Suppose that the Federal Reserve sees this rise in the unemployment rate as a problem. It desires to lower the unemployment rate. What must it do? The answer, of course, is to do what it did the first time to lower the unemployment rate --- **increase the money supply again**. People have caught-on to an inflation rate of 2%. But now, because of the new increase in the money supply, the actual inflation rate is now 4%. **People are fooled again. Their expected rate of inflation is less than the actual rate of inflation.** They are once again taking jobs in a shorter period of time (once again, in two months instead of three months). The unemployment rate falls below the natural rate of unemployment. The Federal Reserve is pleased.

But people do not stay fooled forever. Eventually, they realize that the inflation rate is actually 4%. They desire an increase in their wages of at least 4%. Reservation wages rise by 4% or more. People are now unemployed for a longer time again (once again, three months). The unemployment rate rises. The Federal Reserve is once again not happy. The Federal Reserve desires a lower unemployment rate. How does it accomplish this? The answer is to do what it has done before to lower the unemployment rate --- **increase the money supply yet again**. People have caught on to a 4% rate of inflation and their reservation wages have risen by at least 4%. But now, because of the new increase in the money supply, the actual inflation rate is now 5%.

The Monetarist economists believe that this explanation describes much of the process of the growth in the inflation rate in the late 1960s. The government had defined “full-employment” as a rate of unemployment of 4%. But Monetarist economists believe that

the true natural rate of unemployment was higher than that. When the unemployment rate rose above 4%, the Federal Reserve perceived a problem. It tried to lower the unemployment rate at least to 4%. But the only way the unemployment rate could fall below the natural rate of unemployment is for people to be fooled. **This means that the inflation rate that people expected (and built into their reservation wages) had to be lower than the actual inflation rate.** But since people will soon come to expect whatever inflation rate is in existence (adaptive expectations), **it means that the inflation rate had to be consistently greater and greater.** When people came to expect an inflation rate of 2%, the actual inflation rate had to be 4%. Once people came to expect an inflation rate of 4%, the actual inflation rate had to be 5%. And so on. *The inflation rate would accelerate year by year (that is, inflation would be faster and faster).* Because of this assertion, the explanation of the Monetarist economists came to be called the *“acceleration hypothesis”*. You might also remember that, in Chapter 3, *we defined “full employment” as the lowest rate of unemployment before the inflation rate accelerates.* You can see now where this definition came from.

If the Federal Reserve attempted to keep the unemployment rate permanently below the natural rate of unemployment, there would be accelerating inflation. Eventually, the high rate of inflation will come to be seen as the economic problem, replacing the problem of unemployment. Remember that the Federal Reserve has only one tool available to it --- it can change the money supply. The Federal Reserve cannot solve both economic problems with only the one tool. **It can either increase the money supply to try to lower the unemployment rate (at least, in the short-run) or it can decrease the money supply to try to lower the inflation rate. It cannot do both.** So now, let us turn to the results of the Federal Reserve decreasing the money supply in an attempt to lower the rate of inflation.

Test Your Understanding

Examine the following data:

Year	Change in the Money Supply (M-2)	Nominal Interest Rate (3 Month T Bill)
1964	8.0%	3.549%
1965	8.1%	3.954%
1966	4.6%	4.881%
1967	9.3%	4.321%
1968	8.0%	5.339%
1969	3.7%	6.677%
1970	6.5%	6.458%
1971	13.4%	4.348%
1972	13.0%	4.071%
1973	6.6%	7.041%
1974	5.5%	7.886%
1975	12.6%	5.838%
1976	13.4%	4.989%
1977	10.3%	5.265%
1978	7.5%	7.221%

Year	Unemployment Rate	Inflation Rate (CPI)	Rate of Change in Wages
1964	5.2%	1.3%	4.4%
1965	4.5%	1.6%	3.0%
1966	3.8%	2.9%	5.8%
1967	3.8%	6.2%	6.0%
1968	3.6%	3.1%	7.3%
1969	3.5%	4.2%	7.2%
1970	4.9%	5.5%	6.8%
1971	5.9%	5.7%	6.8%
1972	5.6%	4.4%	6.3%
1973	4.9%	3.2%	8.4%
1974	5.6%	6.2%	10.0%
1975	8.5%	11.0%	10.0%
1976	7.7%	9.1%	8.5%
1977	7.1%	5.8%	8.1%
1978	6.1%	6.5%	9.0%

1. From the first set of data, write a short paragraph describing monetary policy in this period. When was there an easy monetary policy and when was there a tight monetary policy? How do you know? Does the monetary policy of this period conform to the description given by the Monetarist economists in the previous paragraphs? Why or why not?
2. From the second set of data, write a short paragraph analyzing whether the description of the Monetarist economists in the above paragraphs seems to fit the data or not. From this, what can you conclude about the accuracy of the explanation of the Monetarist economists?
3. From what you know from earlier descriptions of this period, what other factors could be responsible for the results that you see in the data?

Test Your Understanding (2)

These questions will be answered in the next section. Try answering them before you read on. Then, check your answers as you read ahead.

The above section discussed the monetarist explanation of what occurs following an increase in the money supply. Now assume that inflation has been very high.

The Fed **decreases** the money supply, causing aggregate demand to _____.

Inventories in stores _____. Orders from manufacturers _____.

Production by manufacturers _____. The number of people employed _____.

Wages should _____ and prices should _____. (Answer "rise" or "fall")

Describe what will occur in the **short-run** if expectations are adaptive. Explain why. In your answer, be sure to define "**short-run**" and "**adaptive expectations**".

Describe what will occur in the **long-run**. Explain why.

On the graphs, draw aggregate demand and aggregate supply and the Phillips Curve. Then, show the changes you have described above --- first for the short-run and then for the long run. Also, **draw the long-run aggregate supply curve and the long-run Phillips Curve.**

4. A Decrease in the Money Supply --- The Short-Run

Now let us go through the same analysis assuming that the Fed has decided to **decrease the money supply**. The Federal Reserve sells Treasury Securities in the open market. As a result, what will happen to interest rates (increase or decrease)? As we saw, when the Federal Reserve decreases the money supply, **interest rates will increase**. When interest rates increase, what happens to consumer spending and to business investment spending (increase or decrease)? The answer is that they decrease. When interest rates increase, what happens to the value of the American dollar (it appreciates or depreciates)? The answer is that it appreciates. When the American dollar appreciates, what happens to American net exports (increase or decrease)? The answer is that they decrease as American exports decrease and American imports increase (see the case in Chapter 7). So, **the decrease in the money supply causes consumer spending, business investment spending, and net exports to decrease**. As a result, what happens to aggregate demand (increase or decrease)? **Aggregate demand (total spending) decreases**. (As stated earlier, this process is known as the *Transmission Mechanism*.)

Let us continue with the story. When aggregate demand (total spending) decreases, people in the stores notice that their goods and services are not selling as fast. They have more goods on hand in the stores and in the warehouses. We say that **inventories are rising**. When inventories are rising, the stores have fewer goods and services shipped to them by manufacturers. We say that **New Orders from Manufacturers are falling**. When manufacturers get these fewer orders, **they desire to produce fewer goods and services**. To produce fewer goods and services, manufacturers need fewer workers. **Because there is less desire to hire workers, wage offers fall**. And in order to sell the products that are piling up in inventories, **the companies lower their prices**. However, we saw in the analysis of Keynesian economics that **wages and prices may not fall**. For our situation here, it does not matter whether wages and prices fall or stay constant. **The only important matter for us is that wages and prices do not rise**.

Let us summarize this sequence:

The Federal Reserve decreases the money supply by selling Treasury Securities

Interest rates rise

Consumer spending, business investment spending, and net exports all fall

Aggregate demand (total spending) falls

Inventories rise

New Orders from Manufacturers fall

Manufacturers desire to decrease their production

To do so, manufacturers desire to hire fewer workers

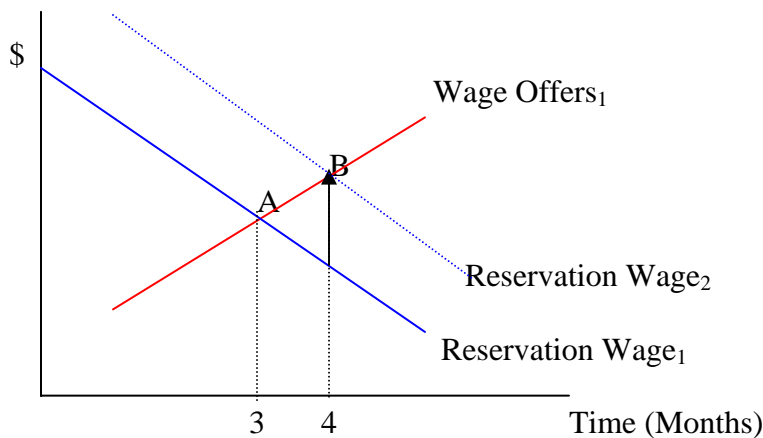
Manufacturers raise their wages (or at least do not raise them)

Manufacturers lower prices (or at least do not raise them)

Remember that expectations of inflation are **adaptive; the expectations are based on what has been happening in the present and recent past**. If there has been a high rate of inflation, people will expect a high rate of inflation. But in reality, there will be a lower

rate of inflation (or no inflation at all). **So the people are fooled by the inflation. Only in this case, the inflation they expect is greater than the inflation that will actually exist. The short-run is defined as the time period during which people are fooled by the inflation (in this case, by the disinflation).**

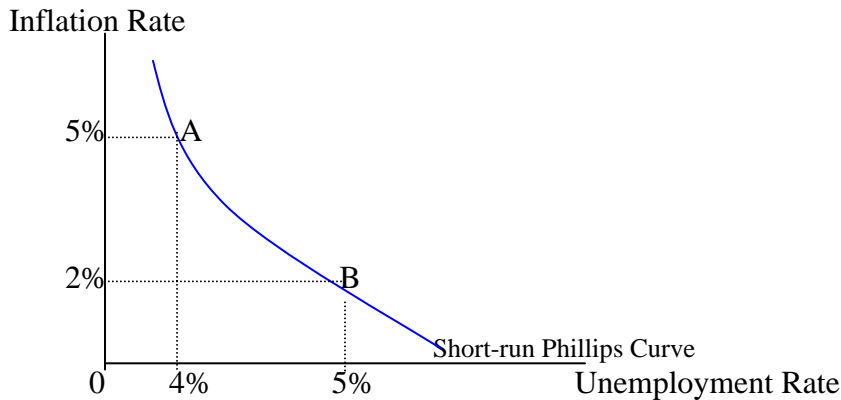
Let us return to the process of job search. Assume it is the end of 1980. The inflation rate in the year just ending (1980) is 13.5%. John is out looking for a better-paying job. How much of a raise does John want for 1981? Most likely he wants a raise that is larger than 13.5% --- 13.5% to cover inflation and another 2% or 3% as a real increase. Notice that this is adaptive expectations. John does not know the inflation rate for 1981. In fact, the inflation rate in 1981 will be much lower since the Fed has been decreasing the money supply. But John does not know this yet. **So his reservation wages have risen. But the wage offers have not risen.** (Imagine that John's employer offered him a raise of 6%. What would John say to this? In all likelihood, he would refuse. He would see the 6% raise as actually being a 7.5% decline in his real wage --- $6\% - 13.5\%$)



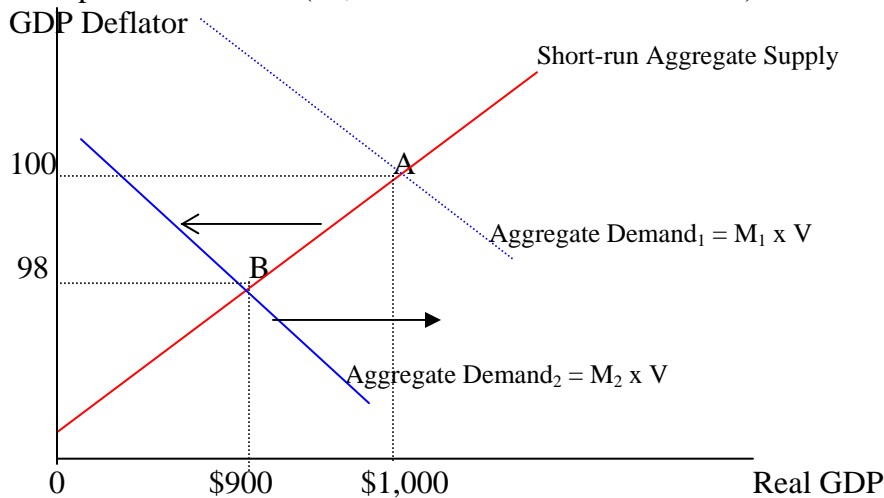
It now takes four months for someone to offer John a job that he was willing to accept. So he is unemployed four months instead of three months. John may not know that four months is an unusually long time. If he does, he probably does not know why he has been unemployed for so long. The reason, again, is that he is expecting more inflation than will actually exist. He wants a raise of more than 13.5%. He cannot find a job with such an increase in wages because none exists. (Notice that, in the interpretation of the Monetarist economists, the unemployment results from the problems with the job search process. **There is still no cyclical unemployment in their view.**)

If the people who are searching for a job are unemployed for four months instead of three months, what happens to the unemployment rate? The answer is that it increases. People are now searching for jobs rather than working. **The unemployment rate rises above the natural rate of unemployment.** If unemployment is rising, what is happening to Real GDP (production)? The answer is that **Real GDP (production) is falling (recession).** If people are spending their time searching for new jobs, then they are not producing goods and services. Since we began the story at Potential Real GDP, **the Real GDP has fallen below the Potential Real GDP.** We now have **a recessionary gap.**

As noted earlier, the **short-run Phillips Curve** says that there is a trade-off between inflation and unemployment. **The decrease in the money supply is the cause of the lower inflation. And the idea that job searchers are fooled by the inflation into asking for higher wages than they can actually get is the cause of the increase in unemployment.** The movement from Point A to Point B on the Phillips Curve reflects the movement from Point A to Point B on the graph of the Job Search Process above. (4% is the natural rate of unemployment.)



The **Short-run Aggregate Supply Curve** shows that, as the price level decreases, the Real GDP (production) decreases. The decrease in the money supply is the cause of the fall in prices. And the idea that job searchers are fooled by the inflation into asking for wage increases that they cannot get is the cause of the increase in unemployment. The increase in unemployment is the cause of the decrease in Real GDP (production). The movement from Point A to Point B on the Aggregate Supply Curve reflects the movement from Point A to Point B on the graph of the Job Search Process and on the Phillips Curve above. (\$1,000 is the Potential Real GDP.)



Notice that the decrease in Real GDP means that there is a recession (and a recessionary gap of \$100). **According to the Monetarist economists, if expectations are adaptive, a recession is necessary in order to reduce the rate of inflation.** The analogy is that if one is overweight, there is no alternative but to diet. The recession is analogous to the diet – a

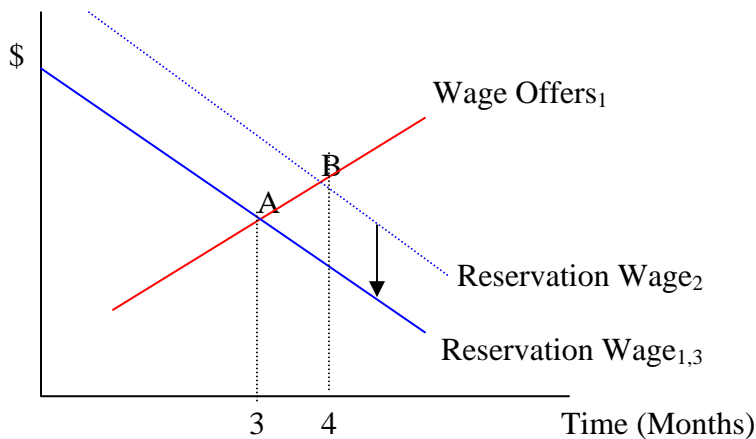
painful period that we must go through to overcome the excesses of the past (in this case, the excessive creation of money).

5. A Decrease in the Money Supply --- The Long-Run

Eventually, people will catch-on to the fact that the rate of inflation is lower.

Imagine that John's employer were to offer John a raise of 6% today. What would John say to this offer? Today a raise of 6% would be great? What accounts for the difference? The answer, of course, is that inflation is very low today. A wage increase of 6% today would have been as an increase in one's real wage of perhaps 4%, compared to a large decrease in one's real wage in 1981. *The time period in which people catch-on to inflation is called the long-run. At this time, the expected inflation rate is equal to the actual inflation rate.* Remember that expectations are adaptive. We only expect inflation to decrease after we have seen inflation actually decreasing. **Now that prices have not been rising, people come to expect that prices will not be rising very much in the near future.**

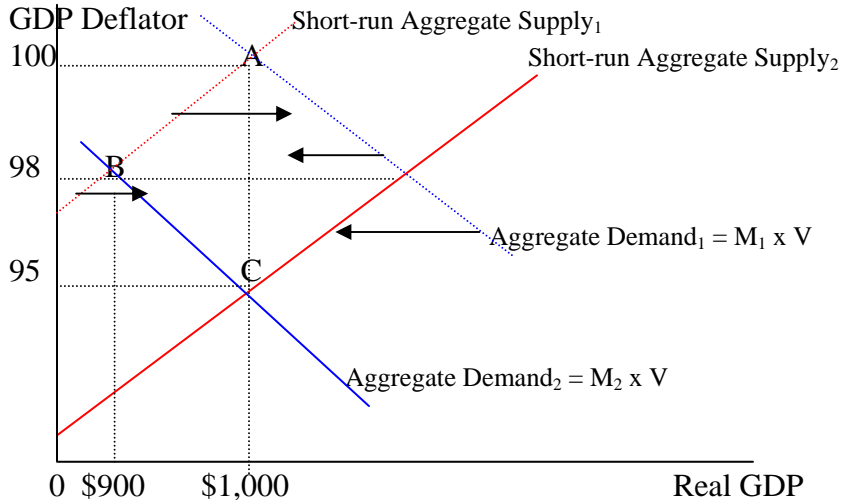
What does John do when he comes to expect lower rates of inflation? The answer is that **he lowers his reservation wage** (the lowest wage offer he will accept). Assume that the inflation rate is now 2% and that John has come to correctly expect a 2% rate of inflation. His reservation wage rises only 2%. Examine the graph. What happens to the time John would be unemployed?



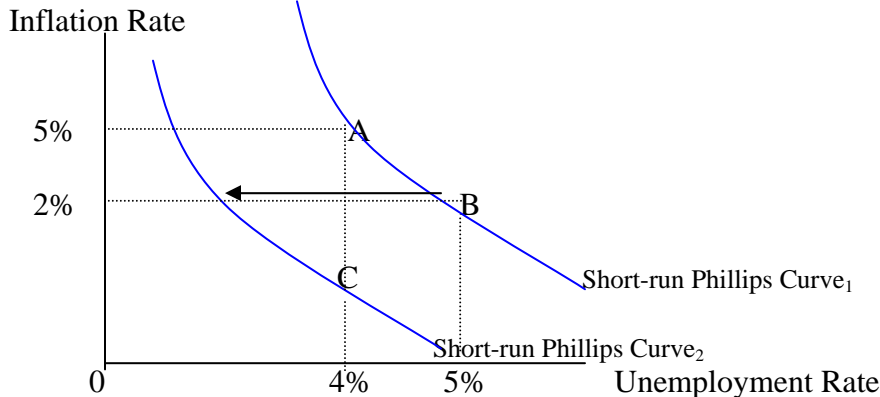
As you can see, **the duration of unemployment falls** from the previous four months back to the original three months (point B to point A). If the duration of unemployment is falling, what is happening to the unemployment rate? The answer is that it is falling.

The unemployment rate falls back to the natural rate of unemployment.

Notice that the wages are falling. Companies don't have to pay wages as high as before because there are so many workers looking for jobs. Lower wages reduce the costs of production for companies. When costs of production are reduced, what happens to the short-run aggregate supply? The answer is that it increases – that is, it shifts to the right.



If the short-run aggregate supply shifts to the right, what happens to the Phillips Curve? The answer is that it shifts to the left.



So now we have explained the third question that needed explanation. We asked why the Phillips curve had shifted to the left (or why the short-run aggregate supply curve had shifted to the right). **The answer, according to Monetarist economists, was the decline in wages as workers reduced their wage requests as they experienced long periods of unemployment and came to understand that inflation rates were lower.**

According to the Monetarist economists, this description fits well with the events of the early 1980s. In that period, the Federal Reserve tightened the money supply to try to reduce the very high rates of inflation then existing. Interest rates rose. People were still expecting the very high rates of inflation to continue. As a result, the American economy went into a very deep recession. Unemployment rates rose to rates above 10%. But the Federal Reserve did not reverse its policy. Money stayed tight and real interest rates stayed high. Eventually, the wage demands of workers started to become lower. Real GDP (production) started to rise in early 1983. Unemployment rates started gradually to fall. By 1988, the unemployment rate had returned to the natural rate of unemployment. And inflation rates were also very low. It had taken a serious recession to get rid of the high rates of inflation that had existed. But, according to the Monetarist economists, by 1988, inflation was beaten and the American economy was healthy.

What would have happened if people had *rational expectations*, instead of adaptive expectations? With rational expectations, people would have realized that the Federal Reserve had decreased (tightened) the money supply. They would know that a decrease in the money supply would cause the inflation rate to decline. They would therefore immediately lower their reservation wages (the lowest wage they would accept). On our graphs, we would move from point A immediately to point C. There would be no point B. That is, there would be no short-run. The only result of the decrease in the money supply in any time period would be the decline in prices (deflation). The view of the Monetarist economists combined with rational expectations would be the same as the Classical Quantity Theory of Money.

Test Your Understanding

Examine the following data:

Year	Change in the Money Supply (M-2)	Nominal Interest Rate (3 Month T Bill)
1979	7.9%	10.041%
1980	8.6%	11.506%
1981	9.7%	14.029%
1982	8.8%	10.686%
1983	11.3%	8.63%
1984	8.6%	9.58%
1985	8.0%	7.48%
1986	9.5%	5.98%
1987	3.6%	5.82%
1988	5.8%	6.69%
1989	5.5%	8.12%

Year	Unemployment Rate	Inflation Rate (CPI)	Rate of Change in Wages
1979	5.8%	11.3%	9.6%
1980	7.1%	13.5%	10.7%
1981	7.6%	10.3%	9.7%
1982	9.7%	6.2%	7.7%
1983	9.6%	3.2%	5.9%
1984	7.5%	4.3%	4.3%
1985	7.2%	3.6%	4.6%
1986	7.0%	1.9%	5.2%
1987	6.2%	3.6%	3.9%
1988	5.5%	4.1%	4.5%
1989	5.3%	4.8%	2.6%

1. From the first set of data, write a short paragraph describing monetary policy in this period. When was there an easy monetary policy and when was there a tight monetary policy? How do you know? Does the monetary policy of this period conform to the description given by the Monetarist economists in the above paragraphs?
2. From the second set of data, write a short paragraph analyzing whether the description of the Monetarist economists in the above sections seems to fit the data or not. Why or why not? From this, what can you conclude about the accuracy of the explanation of the Monetarist economists?
3. From what you know from earlier sections, what other factors could be responsible for the results you see in these data?

6. Differences Between Monetarist Economists and Keynesian Economists

Chapters 13 to 18 highlighted the essential elements of Keynesian economics. While there are Republicans and political conservatives who label themselves as Keynesians, generally Keynesian economics is associated more with Democrats and political liberals. The period from the early 1960s through the early 1970s was the “golden age” of Keynesian economics. Chapters 23 to 24 highlighted the essential elements of Monetarist economics. Monetarist economics is associated overwhelmingly with Republicans and political conservatives. Modern Monetarist economics began in the middle of the 1950s. It tried to resurrect the old Classical view. Until the middle of the 1960s, Monetarist economists were not taken seriously. However, their view became very serious in the late 1960s and 1970s and had a major influence in informing policy decisions. This version of Monetarist economics has been labeled **“Political Monetarism”**. While there are many differences between these two views, let us highlight the most important differences as they emerged over the 1970s and 1980s.

(a) The Self-Correcting Ability of the Economy

Monetarist economists hold to the views of the Classical economists. They believe that an economy can inherently correct its own problems if left alone. In the description of this chapter, the recession ended as reservation wages declined. (Remember that the decline of wages was one of the self-correction mechanisms of the Classical view.) Reservation wages declined as workers came to expect lower rates of inflation. In the Monetarist view, inflation occurs only if the Federal Reserve increases the money supply too much. That inflation will end on its own as soon as the Federal Reserve stops the excessive creation of money. **Monetarist economists believed that prices and wages are much more flexible (especially downward) than did Keynesian economists.**

Keynesian economists, on the other hand, believed that an economy can be in equilibrium at a level below Potential Real GDP. This means that they believed that recessionary gaps can indeed exist. If a recessionary gap did exist, it will go on and on (and perhaps even become larger) until government does something to change it. The economy may eventually cure itself, but this will simply take too long to be of any value (as Keynes said, “in the long-run, we are all dead!”). **They saw prices and wages and less flexible than did Monetarist economists.** And they gave much greater importance to pessimistic expectations in times of recession.

(b) The Nature of Unemployment

How economists see unemployment follows from their view of the ability of the economy to correct its own problems. **Monetarist economists believed that there is no cyclical unemployment. All unemployment is of the frictional, seasonal, or structural type.** In their view, unemployment results from the process of job search and from the idea that people’s expectations of inflation are adaptive (that is, they are based on the present and recent past).

Keynesian economists, on the other hand, believed in the existence of cyclical

unemployment. If the economy were in a recessionary gap, there would simply not be enough jobs available for all of those people who are seeking jobs. There is no sense in chastising the workers for being unemployed. The jobs simply do not exist. The best solution is to provide unemployment benefits so that people can survive until government policy brings the jobs back.

(c) The Power of Fiscal Policy

As we have seen, Keynesian economists of the 1960s and 1970s looked to fiscal policy to solve the problem of the recessionary gap. In 1964, this meant reducing taxes to encourage consumers and businesses to increase spending (through the multiplier). In other periods, it meant increasing government spending to eliminate the recessionary gap.

Monetarist economists, on the other hand, attributed no power to fiscal policy at all. They believed that changes in government spending or in taxes, unless accompanied by changes in the money supply, would not change the total amount of spending (aggregate demand). All fiscal policy could do is to change the composition of spending. Increasing government spending would mean that there would be more of the goods and services typically bought by government and fewer of the goods and services typically bought by others. Decreasing taxes would mean there would be more of the goods and services typically bought by those who received the tax reduction. An increase in government spending or a decrease in taxes would raise interest rates. The higher interest rates would reduce consumer and business investment spending (*crowding-out*). But overall aggregate demand (total spending) would be unaffected in their view.

(d) The Power of Monetary Policy

Monetarist economists gave exclusive power over aggregate demand (total spending) to monetary policy. Because they asserted that velocity was basically constant, aggregate demand could change if and only if there was a change in the money supply. Monetarist economists also believed that the Federal Reserve had a very good ability to control the money supply. Therefore, the power to cure recessions or inflations (and also the power to cause recessions and inflations) rests with the Federal Reserve.

Keynesian economists attributed less power to monetary policy. They did not accept the idea that velocity was basically constant. In normal times, an increase in the money supply was one means by which aggregate demand could be changed. But in a period of recession, the increase in the money supply would have little effect. Increasing the money supply would be like “pushing on a string”. **The increase in the money supply would indeed cause interest rates to decline. But borrowers might not react to the lower interest rates, borrow more, and increase their buying. They might not do so because of pessimistic expectations.**

(e) The Phillips Curve

Keynesian economists gave great emphasis to the Phillips Curve --- the idea that there is a trade-off between the unemployment rate and the inflation rate. They

believed that policies that increased aggregate demand (total spending) would act to lower the unemployment rate but at the cost of raising the inflation rate. And policies that decreased aggregate demand would lower the inflation rate but at the cost of a higher unemployment rate.

Monetarist economists believe that in the long-run, there is no trade-off at all. In the long-run, the Phillips Curve is vertical. The economy will tend to end up at the level of Potential Real GDP (and at the natural rate of unemployment). That results from the ability of the economy to self-correct. Policies that increase (decrease) aggregate demand will only end up causing inflation (deflation).

(f) Rules vs. Discretion

Keynesian economists believed in the ability of government or the Federal Reserve to correct economic problems. If the country were experiencing inflation, a decrease in the money supply, a decrease in government spending, or an increase in taxes would act to reduce the rate of inflation. If the country were experiencing a recession, an increase in the money supply may or may not be effective. But an increase in government spending or a decrease in taxes would act (via the multiplier process) to reduce the recessionary gap. This faith in government is a major reason that the Keynesian view has been attractive to political liberals.

Monetarist economists have no faith in the ability of government to correct economic problems. They point to the *time lags* --- the long time it might take to make appropriate fiscal policy and the long time it might take for monetary policy to have its intended effect. They worry that policies are made for reason of political gain rather than for improvement of the economy. And they do not believe that policy makers have the knowledge of the operation of an economy as complicated as that of the United States to make policies to keep the economy stable. They point to many mistakes in policy making --- mistakes that acted to actually make matters worse. To solve this, this advocate *fixed rules* for the decision makers. The rule for the government is that it should consistently act to balance its budget. It should not try to have budget deficits in times of recession nor budget surpluses in times of inflation. **And the rule for the Federal Reserve is that it should increase the money supply at a fixed rate each year.** Since Potential Real GDP has grown at an average of 2½% per year for the past half century, a good fixed rule might be “increase the money supply at 2 ½% each year”. The Federal Reserve should not try to increase the money supply at a faster rate during times of recession nor at a slower rate during times of inflation. This distrust of government is a major reason that the Monetarist viewpoint has been attractive to political conservatives.

Test Your Understanding

Identify the theory or theories associated with each of the following ideas or concepts. Use C for Classical; K for Keynesian; and M for Monetarism. There may be more than one correct answer.

1. The economy requires active government policy-making in order to achieve full-employment.
2. Monetary policy should follow a fixed growth rate rule.
3. The economy self-corrects relatively quickly.
4. Say's Law assures that aggregate demand equals aggregate supply at full-employment.
5. Economic agents (individuals, businesses, banks, etc.) form their expectations based on the present and recent past.

6. Velocity is too unpredictable to allow a rule for monetary policy to result in economic stability.
7. Fully anticipated macroeconomic policies have no impact on the economy's output or employment.
8. Lags in policy making are too long to allow active policy-making to be consistently successful.
9. A credible anti-inflation policy can reduce inflation but it will necessitate a recession.
10. A supply shock will NOT cause continual inflation unless accompanied by excessive monetary growth

7. The State of Macroeconomics Today

There are still considerable differences of opinion among economists. But most of the debate between the Keynesian economists and the Monetarist economists described above took place in the 1970s and 1980s. There is much more agreement today. Let us note here some of the areas on which people seem to have come to agreement.

(a) Wages and prices are not instantly flexible. But in the 1990s, they turned out to be more flexible than Keynesian economists previously thought.

(b) Because of (1), an economy experiencing a recession will indeed eliminate that recession and return to Potential Real GDP automatically and with no policy decisions. However, it may take quite a long time for this to occur. So for example, the recession that began in July of 1990 was over in March of 1991 (this means that Real GDP stopped falling in March of 1991). However, Real GDP (production) did not return to the level of Potential Real GDP until 1995. This may be too long from a political point of view (that is, the public may not tolerate such a long recovery).

(c) Monetary policy is a more powerful tool for stabilization than is fiscal policy. Indeed, fiscal policies take too long to enact to be of much use at all. On matters regarding overall economic behavior, the Federal Reserve is more powerful than the President of the United States or the Congress. **Discretionary fiscal policy, by itself, is of very limited usefulness in bringing about desirable economic results.**

(d) The trade-off between inflation and unemployment (the Phillips Curve) is non-existent, except over a short time period. Except temporarily, production (actual Real GDP) will be equal to the Potential Real GDP. If there are no supply shocks and no policies to change aggregate demand, Potential Real GDP will grow at a certain rate per year (due to a greater population, more skills, more capital goods, better technology, and so forth). Over the past half century, this rate has averaged 2 ½%.

(e) The natural rate of unemployment is a difficult concept to use in policy making. It is difficult because it continually changes in ways that are unpredictable. In the early 1990s, most economists believed that there would be significant inflation when the unemployment rate fell below 5½% to 6%. Yet, unemployment fell ultimately to 3.9% without inflation rates rising. In the 1960s, the natural rate of unemployment was estimated to be 4% to 4½%. In the 1980s, it was thought to be 6% or higher. Today, it is

probably in the range of 4%. **The point is that we simply do not know how low unemployment can go before inflation rates accelerate.**

(f) Economists are much less likely than before to look at each specific economic problem (such as a recession in 2001) and propose a policy designed specifically for that problem. They are well aware of the time lags that make the effectiveness of their policies problematic. **Instead, they are more likely than before to propose overall guidelines for policy that are to be implemented over a long time period.** So, for example, the Clinton administration's policy was to balance the federal budget and hope the Federal Reserve would expand the money supply. The goal was to reduce interest rates so as to increase investment spending. The point here is that this policy was maintained throughout the entire eight-year period of that administration. However, these rules are not as rigid as the rules proposed by the Monetarist economists.

(g) The Federal Reserve cannot control the money supply as easily as was once believed by the Monetarist economists. Indeed, it is often the case that the various measures of the money supply are going in opposite directions. **Nor is it clear just what effect each of the measures of the money supply has on aggregate demand.** *The Federal Reserve today tries to control interest rates (especially the federal funds rate), not the money supply.*

What is clear is that the agreements that have taken place seem to be mostly in the direction of the views of the Monetarist economists. While the position of the Monetarist economists of the 1970s may seem too extreme today, the essence of their positions seems to dominate macroeconomic thinking. **The views of the Keynesian economists of the 1960s and the 1970s are of much less importance today.** For those who have lived through this period, this is a tremendous switch. In the 1960s especially, the Keynesian economists were seen as "saviors" and the Monetarist economists were seen as "weird". Times do indeed change.

8. Summary and Conclusion

The last two chapters have presented the description of economic events as postulated by Monetarist economists. In many ways, this description is similar to that of the Classical view that existed from the eighteenth century until 1930. We have tried to contrast these views with the description of the Keynesian economists. We have highlighted the differences that originally existed and then seen how agreement has been reached in many of the areas of contention. Monetarist economics is generally associated with political conservatives.

Practice Quiz for Chapter 24

1. According to Monetarist economists, the **short-run** is
 - a. less than one year
 - b. a period of time in which people catch on to inflation
 - c. a period of time in which people are fooled by inflation
 - d. less than 5 years

2. According to Monetarist economists, if there is an **increase** in the money supply, in the **short-run**, with **adaptive expectations**, unemployment will
- fall below the natural rate of unemployment
 - rise above the natural rate of unemployment
 - equal the natural rate of unemployment
3. According to Monetarist economists, if the Federal Reserve tries to keep the unemployment rate **permanently below** the natural rate of unemployment, the result will be
- rising unemployment
 - rising rates of inflation
 - equilibrium Real GDP equal to Potential Real GDP
 - a rising federal budget deficit
4. According to Monetarist economists, if the Federal Reserve **decreases** the money supply, in the **short-run with adaptive expectations**, there will be
- recession
 - inflation
 - lower real interest rates
 - a greater federal budget deficit
5. According to Monetarist economists, in the **long-run**, the unemployment rate will
- be below the natural rate of unemployment
 - equal the natural rate of unemployment
 - be above the natural rate of unemployment
 - equal the rate of inflation
- 6 through 10. Chose A if the statement is most likely made by a **Monetarist economist** and B if the statement is most likely made by a **Keynesian economist**.
6. Fiscal policy is a good way to eliminate recessionary gaps.
7. Aggregate demand (total spending) will only change if there is a change in the money supply.
8. There is a trade-off between the inflation rate and the unemployment rate.
9. The Federal Reserve should pursue a fixed rule and increase the money supply at a steady 2½% every year.
10. No unemployment can be of the cyclical type.

Answers: 1. C 2. A 3. B 4. A 5. B 6. B 7. A 8. B 9. A 10. A