

April 2003

Marketnomics 102: Economic statistics and the Fed

The Fed's role in the economy

By Robert Fisher

He is arguably the most watched man in the financial world. His words can dramatically move markets. He presides over perhaps the single most influential institution in the financial markets. Entire careers are built around watching, analyzing and predicting what he will say and what the institution he runs will do.

Who is he? What institution does he head?

He is Alan Greenspan, Chairman of the Federal Reserve Bank Board. The institution, obviously, is the Federal Reserve Bank of the United State (the Fed).

In this second in a series of articles, we will provide an overview of the Fed and its function.

The Fed was created by an Act of Congress in 1913. U.S. lawmakers wanted to create a body that could be helpful in smoothing out the boom-and-bust business cycle that the country had experienced in the past. They gave the Fed three basic functions:

- 1) It is the keeper of the payment system in the United States;
- 2) It provides financial services to government and public banking enterprises, and
- 3) It conducts monetary policy. (We will concentrate on this last item later in the article.)

Unlike most other central banks, the Fed has both a national and regional make-up; it serves both the public and private sectors, and it is independent in its actions yet operates with government oversight. The Fed consists of 12 regional Federal Reserve Banks. Each of these banks is responsible for monitoring and reporting on economic activity in its region. The Board of Governors of the Fed consists of seven members who serve for 14 years, and their terms are staggered. These board members are all appointed by the President and approved by the Senate. The Chairman is the most important member of the board. Several sub-committees at the bank oversee different operations. The best known and most important of these committees is the Federal Open Market Committee (FOMC).

The FOMC dictates monetary policy in the U.S. The FOMC consists of 12 members: the seven board Governors (including the Chairman) and five presidents of the regional Fed banks. The five regional presidents rotate annually with the exception of the President of the New York Fed, who is a permanent voting member. All 12 regional Fed Presidents attend and participate fully in all discussions; however, voting is restricted to the seven governors and five presidents.

Monetary vs. fiscal policy: It may be helpful at this point to undertake a brief explanation of the difference between monetary policy and fiscal policy. Fiscal policy is the domain of the government (made up of the U.S. President and Congress). Fiscal policy includes such things as spending increases or cuts and changes in tax rates. Increases in government spending or reductions in tax rates constitute expansionary fiscal policy, while decreases in spending and/or increases in tax rates are contractionary. Expansionary policy is designed to help boost economic

activity and help the economy maintain growth or return to growth after a recession. Contractionary policy is designed to slow down an economy that is thought to be growing too quickly.

Monetary policy, on the other hand, is effected in two basic ways: by changes in interest rates or changes in the money supply. This is the domain of the Fed. Reductions in interest rates or reserve requirements and/or increases in the money supply are expansionary in nature. Conversely increases in interest rates or reserve requirements and/or decreases in the money supply are contractionary.

With this in mind, we can discuss the role of the Fed and how it influences economic activity. With respect to monetary policy, the role of the Fed is to provide an environment that contributes to long-term economic health by promoting maximum employment and output while maintaining price stability. What does all that mean? Essentially it means that the goal is to provide for the highest possible economic growth and the highest possible level of employment while keeping inflation under control. As we know, periods of strong economic growth have historically been accompanied by increasing inflation, while periods of recession have been accompanied by falling inflation. The reasons for this are pretty simple. During periods of strong growth, businesses and households increase their demand for goods and services, which are in limited supply. As demand increases for this limited supply of goods and services, their prices rise. As prices increase, inflation rises. Conversely, in periods of slow or negative economic growth, the demand for goods and services falls and prices are lowered to stimulate demand. The actions of the Fed effectively mirror the activity in the economy to try to balance out these competing forces.

The Fed has both short-term and long term objectives. In the short term, the Fed aims to affect the current economic situation, be it expansion or recession. In the long term, the Fed aims to provide an environment that supports continuous growth and price stability without intermittent, sharp ups and downs.

As mentioned earlier, the Fed has two essential tools in its arsenal to affect economic activity: interest rates and money supply.

Interest rates: The Fed influences two interest rates: the discount rate and the Fed funds rate. The discount rate is the rate at which the district Fed banks will lend funds to commercial banks and financial institutions in their region for overnight funds. Because each regional Fed bank sets this rate, the discount rate can differ from one region of the country to another. While individual banks set the rate, it is subject to approval by the Fed Governors.

The Fed funds rate is the more important of the two interest rates set by the Fed. The Fed funds rate is the rate at which banks will lend to each other for overnight funds. It is set by the Fed and maintained by operations of the Fed in the financial markets.

How do changes in interest rates affect economic activity? In simple terms, by affecting the demand for and supply of money. While the Fed sets only the Fed funds rate and discount rate, a change in this rate will affect other interest rates in the economy, including mortgage rates, business-loan interest rates, commercial-paper rates and others. A change in one of the Fed interest rates affects the desire of the banks to borrow from the Fed or from each other. During an economic expansion, when the Fed becomes concerned about rising inflation, it will increase

interest rates. This will cause other market interest rates to rise. When interest rates rise, the cost of borrowing money increases. As the cost of borrowing increases, households and businesses become less inclined to borrow to make purchases. As a result, demand for goods and services declines and economic activity slows down. The reverse occurs during an economic slowdown. The Fed will lower interest rates, which causes other market interest rates to fall. Lower interest rates will encourage businesses and households to borrow to make new purchases. As demand for goods increases, production and employment increases and the economy grows.

At least, this is how it's supposed to work in theory. In historical practice, the theory has actually worked, but not perfectly. Lags occur between the time the Fed changes interest rates and the resulting impact on economic activity. Other factors besides interest rates also influence the economy, which can affect economic growth. (We will discuss some of these later.)

Money supply: The second way in which the Fed can influence economic activity is through changes in the supply of money. The supply of money exists in the economy to pay salaries, make purchases, lend to borrowers, etc. The Fed can affect the money supply in three basic ways:

- 1) It can change the reserve requirements of the banks;
- 2) It can change the discount rate, or
- 3) It can engage in open-market operations.

U.S. law requires banks and other depository financial institutions to maintain financial reserves with the Fed. The amount of reserves required depends on the size of a bank's deposit base. So for every dollar that a bank takes in deposits of one kind or another, it must effectively deposit a fraction of that dollar in its account at the Fed. (All depository institutions have to maintain reserve accounts at the Fed). If the Fed increases reserve requirements, each bank must deposit a greater proportion of each dollar, leaving less available to make loans or invest in other ways. If the Fed lowers reserve rates, then each bank deposits less of each dollar in its Fed account, leaving more available to invest. If a bank can keep a greater proportion of each dollar on deposit to invest and make loans, then it can lend more money to more households and businesses to make purchases. More purchases lead to an increase in economic growth. The Fed rarely changes reserve requirements, but when it does, the change can have a large impact on economic activity.

The second way the Fed can influence the money supply is with the discount rate. If the Fed reduces the discount rate, then banks may be more inclined to borrow money on their own behalf and then lend or otherwise invest the money at a higher return. The opposite happens when the Fed increases the discount rate. Because they can tap a ready supply of money from other sources, banks generally do not borrow from the Fed. So changes in the discount rate have at best only an indirect impact on the money supply.

The third method in which the Fed can change the money supply is through open-market operations. When the Fed engages in open-market operations, it either buys or sells government-issued securities. When the Fed wants to increase the money supply, it will buy government bonds; when it wishes to decrease the money supply, it sells government bonds. When the Fed buys securities in the markets, it pays for those securities by depositing money in the reserve account of the bank of the securities dealer from which it bought the bonds. Of each dollar that the reserve account increases, a fraction must remain in the reserve account, but the balance is available to the bank to make new loans or invest in some other way.

When the Fed sells government securities, it collects payment by reducing the reserve accounts of the banks of the securities dealers to which it sells the bonds. Since their reserve accounts have been reduced, the banks have less money available to make loans or invest. The same dynamics apply here as discussed above for increasing the money supply by buying government bonds. More money available to make loans means households and businesses can borrow more money to make purchases of goods and services. Demand is increased, production and employment increase, and economic growth increases. The reverse holds true for reductions in the money supply resulting from selling government bonds.

As I indicated above, the Fed can maintain the Fed funds target rate through open-market operations. How does this happen? Recall that the Fed funds rate is the rate at which banks will lend to each other in the overnight market. If the demand for loans rises and the supply of money is fixed, interest rates will rise as increased demand chases a fixed supply and prices (interest rates) get bid up. By increasing the money supply through the buying of government securities, the Fed can allow the increased demand for loans to be met, and thus prices will remain steady. If the Fed increases the money supply over and above that which is demanded in the market, interest rates will fall; if it takes more money out of the economy than is required to maintain supply/demand equilibrium, interest rates will rise. Historically the bank has made surprise moves in open-market operations, either injecting money into the economy or taking it out to signal a change in its interest-rate policy.

As with changes in interest rates, the economic impact of changes in the money supply works better in theory than in practice. In practice, markets are not perfect and other factors may influence the ultimate impact of a change in the money supply on economic activity. Commercial banks may decide to leave more reserves in their account with the Fed than they have to by law. This will temper the full impact of an increase in the money supply. Commercial banks may also follow a conservative lending policy and may not lend out all the money available to them. Instead, they may invest the money by buying low-risk government bonds or other securities already in the market. If banks do this, then they reduce the impact on economic activity of an increase in the money supply.

Conversely a reduction in the money supply may not reduce the level of loan activity in the economy to the extent anticipated in theory. If a bank invests in government or other securities rather than in direct loans, and the Fed reduces the money supply, the bank may sell its other securities rather than reduce its loan portfolio to generate cash it needs to bring its reserve account to the required level. If the bank has maintained its reserve account at a higher level than required and the money supply is reduced, the bank may not need to take any action in its loan/investment portfolio to maintain its minimum required reserve balance. Such market imperfections, as well as other factors beyond the control of the Fed, temper the full impact of changes to interest rates and money supply.

As I mentioned, Fed policy has both short-term and long-term goals. Despite the actions of the Fed to use monetary-policy tools to help manage the economy, it may not succeed to the extent it would like.

A major reason for this is that actions by the Fed to stimulate the economy in the long run depend more on changing preferences and technological change. With respect to technology, if significant technological improvements make it possible for companies to produce goods or provide services with fewer employees, then companies may reduce employment levels in spite

of the Fed's attempts to stimulate the economy and increase employment. Changes in consumer preference also play a role. Changes in risk tolerance, a desire to save instead of spend and the desire to trade off leisure time for work can also play a role. If consumers increase their tolerance for risk, then they may incur higher debt and make more purchases despite attempts by the Fed to curb such activity. If consumers increase their desire to save, then reducing interest rates will have little impact on borrowing and spending because consumers simply don't want to spend. This has occurred in Japan, where despite near-zero interest rates, consumer spending has not risen because people seem unwilling to spend. They have seen their wealth eroded by huge reductions in the value of equities and real estate, and they wish to hold cash rather than potentially see their wealth further eroded and their ability to engage in basic spending reduced. Lastly, if workers value leisure time more than earning money, then virtually no efforts to stimulate the economy, demand and employment will succeed. The reverse also applies to all of these variables. For these, and other reasons, monetary policy changes have less impact in reality than they should in theory.

In reaching its decisions on monetary policy, the Fed monitors information in the marketplace. Most important are the monthly economic statistics that we discussed in Marketnomics 101 (Canadian Treasurer, February 2003). It monitors the economic statistics for changes in economic activity. It also monitors the influence of changes in prices at one level of the economy on changes at another level of the economy (e.g., PPI vs. CPI). By monitoring all of this information the Fed can make decisions on monetary policy and help to steer the direction of the economy.

How successful has the Fed been? Overall, pretty successful. Keep in mind that government fiscal policy is also at work along with other factors that the Fed cannot control. Over the long term, periods of economic growth have both outnumbered and outlasted periods of recession. In more recent years, the economy has experienced its longest period of uninterrupted growth from roughly 1991 through 2001. The strong growth was slowed only in the mid-1990s by the famed soft landing that the Fed engineered for the economy. A soft landing is a period of low but still positive economic growth before strong growth resumes. This was the first time that such a feat had been achieved.