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Monopoly power over money

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Central banks have a huge influence over the financial system. In this, the fifth of our schools briefs on the world of finance, we explain how they conduct monetary policy

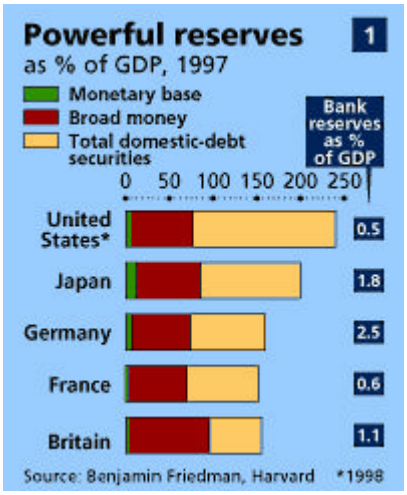
DURING the cold war, Russian leaders' every word was scrutinised by an army of Kremlinologists. Now, that honour is accorded to the world's central bankers, whose pronouncements are pored over by throngs of well-paid financial analysts.

These days, central bankers seem all-powerful. In most rich countries they go about their business without interference from politicians. And their success at using their new-found independence to bring down inflation has earned them great respect. In America, Alan Greenspan, chairman of the Federal Reserve, is acclaimed as a hero and credited with sustaining his country's unprecedented economic boom.

Central banks matter to the financial system for two main reasons. First, they set short-term interest rates. These affect the cost of borrowing throughout the economy, from money markets to mortgage rates, and they have an additional influence through their impact on exchange rates, inflation and growth. Second, central banks generally support (and often regulate) the banking system, notably by acting as a lender of last resort to banks in financial distress. This brief focuses on monetary policy; bank regulation was discussed in an earlier brief.

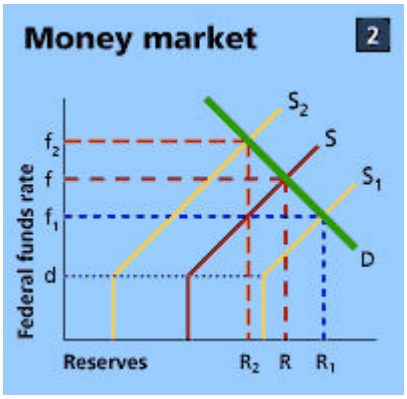
For all central banks' importance, they remain tiny participants in huge financial markets. So how do they affect prices, ie, interest rates, in those markets? Consider America. Its fixed-income market (government and private) is worth some $13.6 trillion. Every day hundreds of billions of dollars of these securities change hands, and it is not unusual for a single private firm to buy or sell more than $1 billion in one go. The Fed itself buys or sells only between $1 billion and $5 billion of these securities each year: a mere drop in the ocean of a $14 billion market. Yet somehow it affects the level and structure of prices and yields.

The reason the Fed can set interest rates is that it has a monopoly on supplying bank reserves. Banks are required to hold a fraction of the money deposited with them in a reserve account at the Fed (see chart 1). They usually hold more, for precautionary reasons. The interest rate at which banks' demand for reserves matches the Fed's supply is known as the federal funds rate; this is also the rate at which banks lend reserves to each other overnight. The Fed controls it by changing the supply of reserves through sales and purchases of government securities, known as open-market operations.



When the Fed wants to raise the federal funds rate, it sells government securities. It receives payment by reducing the account of the buyer's bank, which reduces the volume of reserves in the banking system. This is illustrated in chart 2 by a shift in the supply curve for reserves from S to S2. Because banks' demand for reserves exceeds supply, the federal funds rate is bid up (from f to f2) until excess demand is eliminated. And when the Fed wants to lower the rate, it buys securities, which increases banks' reserves and bids down interest rates. The supply curve shifts from S to S1, and the rate falls from f to f1.

The Fed can also influence the federal funds rate indirectly, by changing the discount rate (d in chart 2), the rate at which it will lend reserves to banks, or altering banks' reserve requirements, the fraction of their deposits that they are required to hold as reserves. Raising the discount rate makes it less attractive for banks to borrow reserves. This reduces the volume of reserves, which pushes up the federal funds rate. Increasing reserve requirements boosts banks' demand for reserves, which also bids up the federal funds rate. But the Fed usually prefers to control the rate through open-market operations, which have a more stable and predictable impact on the money market.



The long and short of it

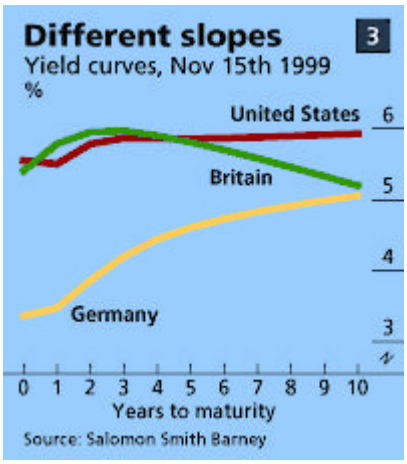
Changes in the federal funds rate ripple through financial markets and the economy. They have knock-on effects on the interest rates at which banks lend to households and firms, and hence the amount of credit in the economy. And they influence long-term market interest rates too.

Take the yield on a five-year government bond. It is simply the weighted average of expected short-term interest rates over the next five years, plus a risk and a liquidity premium. A rise in short-term interest rates typically has two effects on long-term rates. It raises the five-year weighted average slightly. And it also affects expectations of future short-term interest rates.

If, for example, investors believe the Fed is raising rates pre-emptively to prevent inflation rising, then expected future interest rates may fall, and so would five-year yields. However, if the rate increase is seen as a belated recognition by the Fed that inflation is likely to rise, five-year rates may rise in anticipation of further rate increases to come.

The graphical relationship between interest rates on securities of different maturities is known as the yield curve. Yield curves typically slope upwards, as Germany's does in chart 3 on the, because investors demand a risk premium on bonds of longer maturities to compensate for the extra uncertainty associated with lending for a longer period. But when monetary policy is tightened and short-term interest rates are increased, it is possible sometimes for the yield curve to become inverted, as Britain's is in the chart, sloping downwards for all but the shortest

maturities.



Most central banks set monetary policy with the aim of keeping inflation low. The European Central Bank (ECB) has the statutory goal of "price stability"; the Fed also has a duty to support employment and economic growth. In most rich countries, governments now define central banks' aims, but allow them to pursue them without political interference.

To meet their aims, central banks usually adopt intermediate targets as well. These guide policy, as well as keeping expectations of inflation low. Ideally, the targets should be variables the central bank can control which have a predictable relationship with its ultimate goal, inflation. In practice, ideal targets do not exist, so a trade-off must be made between controllability and predictability.

One option is to target money-supply growth. The narrowest money-supply measure is the monetary base, or M0, which consists of cash and bank reserves. M1 also includes checking accounts. Broader measures, such as M2 and M3, encompass interest-bearing deposits and some short-term securities. Central banks have greater control over narrower measures of money supply, but broader measures are more closely correlated with future price changes.

Money-supply targeting was popular in the late 1970s and early 1980s, because there seemed then to be a stable link between money-supply growth and future inflation. But it had two big drawbacks. First, it led to volatile interest rates, partly because banks' demand for cash is insensitive to small interest-rate changes. And second, the historical relationship between money-supply growth and inflation broke down, partly because financial deregulation and innovation made the demand for money unpredictable. The ECB has adopted a monetary "reference value" for M3, but it has eschewed a binding target.

Moving targets

A second option is an exchange-rate target. A country with a poor record of controlling inflation can peg its currency to that of a low-inflation economy. In effect, this allows it to piggy-back on the low-inflation country's credible monetary policies. Many developing countries fix their currencies against the dollar, and, under the European exchange-rate mechanism, European countries used to peg their currencies to the German mark. But with freely mobile international capital movements, exchange-rate pegs have become vulnerable to speculative attack. So now most rich countries either have permanently fixed exchange rates, as in the euro area, or they have floating rates and control inflation in other ways.

A third option is to target inflation directly, which is what a growing number of central banks now do. Australia, Britain, Canada, New Zealand and Sweden have explicit inflation targets. These have many advantages, notably transparency and accountability. But they are not without problems. For one thing, because monetary policy operates with long lags, central banks have to adjust policy on the basis not of current inflation, but of future inflation, which is difficult to forecast.

Some economists also argue that inflation targets focus too narrowly on consumer-price inflation, which may lead central banks to ignore potentially harmful asset-price bubbles. In Japan in the late 1980s, the Bank of Japan failed to check soaring share and property prices, because consumer-price inflation remained low. When the bubble burst, the economy plunged into recession.

As well as setting monetary policy and regulating the banking system, many central banks used at one time to finance governments' budget deficits. When government spending exceeds tax revenues, the difference is financed by selling government bonds. If these are sold to the public, then the net effect on the money supply is zero. But if they are purchased by the central bank, the money-supply rise that accompanies the deficit is not offset: this is known as "printing money" or "monetising the deficit". Nowadays, central banks in most rich countries are forbidden from financing the government's budget deficit. But there is strong pressure on the Bank of Japan to buy government bonds to kick-start the Japanese economy.

Central banks' monopoly on supplying cash and bank reserves is relatively new. In the 19th century, private banks in Britain and America issued competing currencies. A return to such a "free-banking" era seems unlikely, but even if central banks' monopoly is not in danger, it may eventually become irrelevant. Privately issued electronic money could one day complicate or even nullify central banks' ability to set interest rates. Central banks are not about to vanish overnight. But, like the Kremlin, they may not retain their pre-eminence forever.