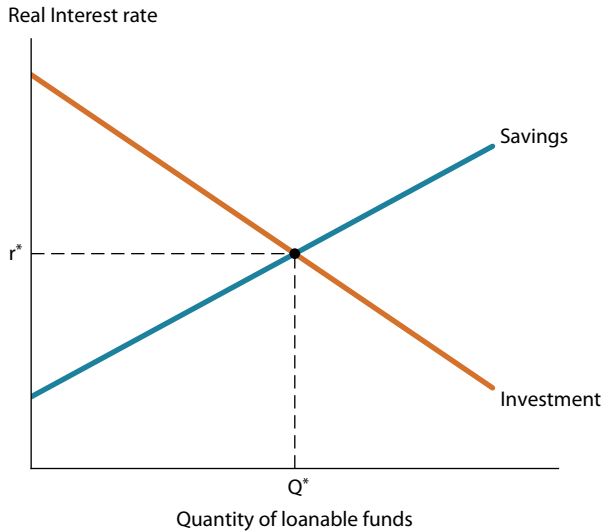


The Loanable Funds Market



Graph AB-1

The Loanable Funds Market

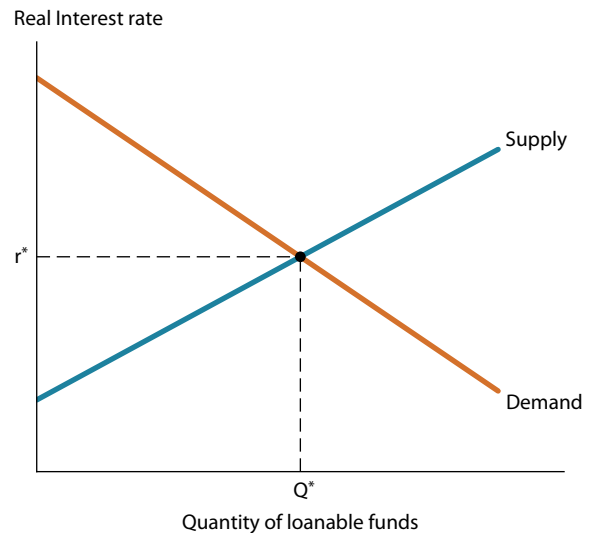
The loanable funds market represents the market where savers meet borrowers. The interaction of the supply and demand for loanable funds determines the real interest rate for loans in the economy. For borrowers, interest is the price to borrow money; for savers, interest is the return on loaned money.

A few caveats are necessary at the start of this discussion. First, there is no single “the interest rate.” Interest rates differ due to the type of instrument, lending risk, the length of the loan, the purpose of the loan, location, and a host of other factors in a variety of markets. To simplify the issue, this hypothetical loanable funds market represents all of the markets for the varying interest rates, to show how interest rates are determined in each individual market. In addition, this model assumes that prices are not changing during the analysis, so the real interest rate, rather than the nominal interest rate, is used for this market.

It is important to make the distinction between nominal and real interest rates, in the same way economists distinguish nominal and real incomes. The nominal interest rate is the rate expressed in the current value of dollars. The real interest rate is the rate expressed in the purchasing power of dollars which are adjusted for inflation. Inflation erodes the purchasing power of dollars, so a dollar

saved this year will not buy as much next year. The real interest rate is the nominal interest rate minus the expected inflation rate. A saver may earn a 6% nominal interest rate on a bond, but if the inflation rate is 2%, the real interest rate is only 4%. The loanable funds market assumes no inflation, so the real interest rate is used in this analysis.

The Private Sector Loanable Funds Market



Graph AB-2

The Loanable Funds Market

In a closed private economy with no government or foreign sectors, savings equals investment. In the macroeconomic loanable funds market graph (AB-1, AB-2), what was originally labeled “investment” is represented by a demand for loanable funds, while “savings” are represented as a supply of loanable funds. The equilibrium interest rate is determined at the point where the quantity of loanable funds demanded equals the quantity of loanable funds supplied.

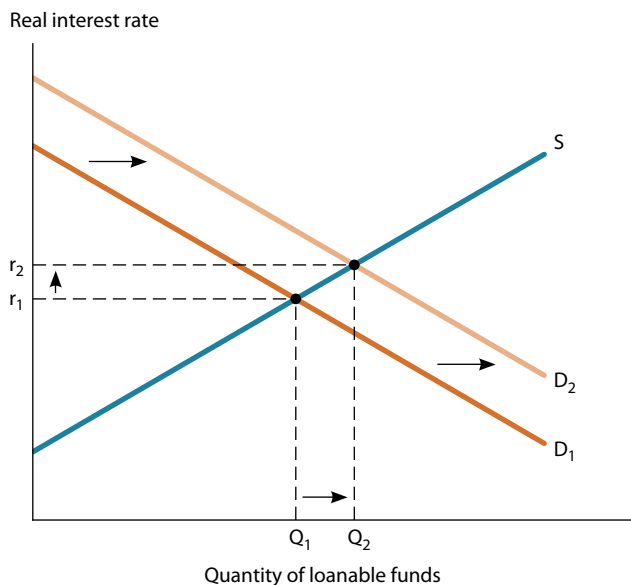
The demand for loanable funds in the private market comes from households and firms. Consumers borrow to pay for houses, cars, and college tuition. Firms borrow to buy capital, expand factories, and start entirely new businesses. Firms will only invest if the return on their investment (increased profit as a percentage of the cost) is greater than the interest rate charged for the loan. As a result, at low interest rates, firms are more willing to bor-

row, and at higher interest rates, firms are less willing to borrow. This relationship is also true for consumers. Therefore, the demand for loanable funds is a downward-sloping curve.

The supply of loanable funds comes from households who are saving money for future purchases or for retirement and are willing to loan it to others, often through banks or bonds. Interest serves as an incentive for people to forego the present use of money in order to have even more money in the future. When interest rates are low, people incur little opportunity cost for holding money in cash, so they have little incentive to put savings in a bank or buy a bond. They would rather consume products or invest that money in commodities or other investments. But as interest rates rise, people are more willing to save, making that money available for loans to others. Therefore, the supply curve for loanable funds is upward-sloping. Because many people save for large purchases, retirement, or economic security regardless of interest rates, the supply curve may be fairly inelastic (fairly vertical).

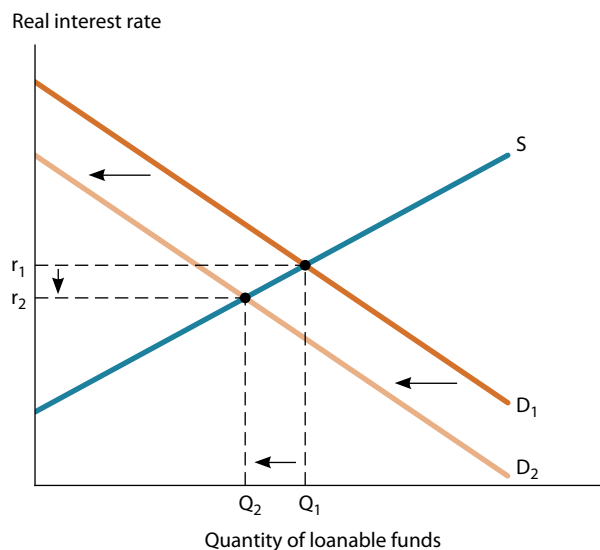
Changes in Supply and Demand for Loanable Funds

Private sector demand for loanable funds increases when consumers purchase more products which require them to borrow money. An increase in disposable income, a decrease in the price of homes or cars, or increased demand for college education can spur demand for loanable funds (AB-3). Demand for loanable funds also increases as a result of an increased return on firms' investment. An increase in the productivity or a decrease in the cost of new equipment would increase the firm's return on investment. An increase in consumer demand which increases the firm's product price would also increase the return on investment. Conversely, a reduction in productivity or product demand would lead firms to reduce their demand for loanable funds (AB-4). An increase in the demand for loanable funds increases interest rates; a decrease in demand lowers interest rates.



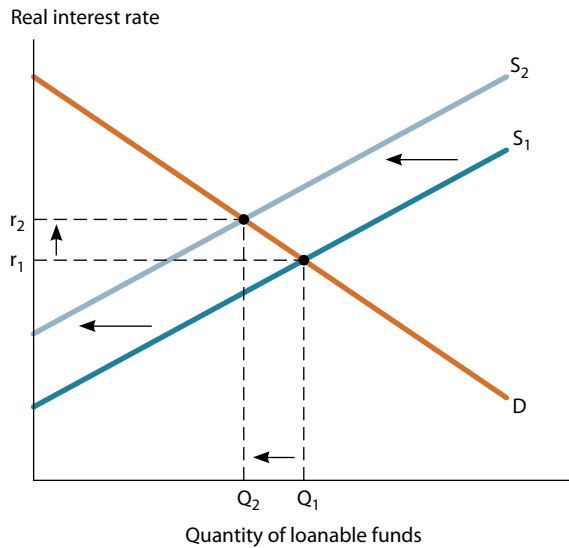
Graph AB-3

Increase in Demand



Graph AB-4

Decrease in Demand



Graph AB-5

Decrease in Supply

The supply of loanable funds increases if consumers have an incentive to save more. Concerns about rising retirement or college tuition costs lead people to save more for future expenses, increasing the supply of loanable funds. The supply of loanable funds can decrease if significant numbers of savers lose jobs or real income and households have to dip into their savings to afford current consumption (AB-5). An increase in the supply of loanable funds lowers interest rates; a decrease in the supply of loanable funds increases interest rates.

Changes in interest rates have implications far beyond the individual firm or household. If interest rates rise significantly, firms will be less willing to borrow for investment, slowing total spending in the economy and potentially leading to a recession. Conversely, interest rates that fall significantly can create inflation. Further, lower interest rates make it more profitable for firms to borrow to finance research and development, which can spur innovation and significantly increase long-run economic growth. High interest rates can deter that investment, or restrict it to only those projects most likely to see a high return on investment.

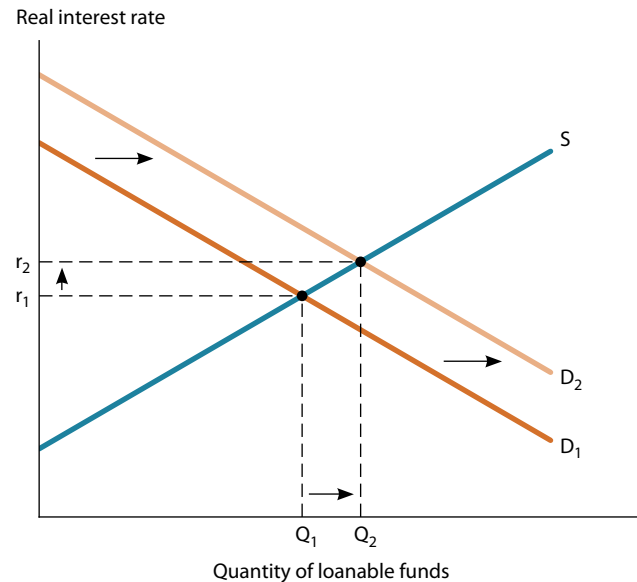
The model is complicated by the fact that households and firms may be operating as both demanders and suppliers of loanable funds at the same time. A family may have a savings account or own bonds at the same time that they are seeking a home mortgage or a car loan. A firm may have excess revenue that it holds in a bank account at the same time it obtains a construction loan.

The Effects of Government Policies

The government also plays important roles in the loanable funds market. Government policies can affect the private sector supply of loanable funds by giving households an incentive to save more, such as a tax break for interest earned on savings accounts or bonds. In addition to private market actions, the Federal Reserve can use monetary policy to directly increase or reduce the supply of loanable funds available through banks as a means of stabilizing the economy.

The federal government acts directly as a demander of loanable funds when it borrows money to finance the national debt. Although government borrowing is not affected by interest rates, the overall demand curve remains downward-sloping. Government policies can also affect private sector demand for loanable funds. Business tax deductions and credits for investment increase the return on investment, increasing the demand for loanable funds. Tax deductions for mortgage interest and rebate programs such as the “cash for clunkers” program can entice consumers to buy houses and cars, increasing demand for loanable funds.

One problem of fiscal policy is that when the federal government attempts to resolve a recession, it creates the potential for crowding out in the loanable funds market. When the government uses expansionary fiscal policy to increase spending and reduce taxes, a budget deficit develops. Government must borrow money to finance the deficit. As



Graph AB-6

Crowding Out

government demand for money in the loanable funds market increases, interest rates rise. Because investment spending is the most volatile of the four sectors, when interest rates increase, firms can significantly reduce investment spending, crowding firms out of the loanable funds market. As illustrated in the graph (AB-6), the increase in demand for loanable funds due to government borrowing increases the total quantity of loanable funds. However, assume that D1 represents the private loanable funds market, while D2 represents the private loanable funds plus government borrowing. As a result of higher interest rates, the quantity of loanable funds borrowed by firms in private markets would actually fall, from Q1 to where the higher interest rate (r_2) intersects the original D1 curve. So while the total amount of borrowing has increased (Q1 to Q2), borrowing in the private sector has decreased. (Note: Some economists prefer to view the loanable funds market as a purely private market without including government borrowing. In their view, crowding out occurs as a result of a decrease in supply of private market loanable funds, as some households withdraw their supply of loanable funds from the private sector market and instead invest those funds in government bonds. The interest rate in the loanable funds market increases in either approach.)

While the government is using expansionary fiscal policy and borrowing money in order to increase aggregate demand, crowding out reduces the effectiveness of the fiscal policy by offsetting part of that increase in aggregate demand. The higher interest rate can also reduce interest-sensitive consumption spending, such as consumer purchases of homes, cars, and durable goods, further reducing the effectiveness of expansionary fiscal policy.

The crowding out effect, if it occurs at all, has less impact during a time of recession (when expansionary fiscal policy is most likely to be used), because consumer and investment sector demand for loans has already decreased due to the recession. Consumers tend to buy fewer homes, cars, and expensive items, and firms reduce investment as product demand falls. So the increased government demand for loanable funds may replace decreased private sector demand for those same funds. In addition, if the increased government spending is used for infrastructure projects such as roads, bridges, or power systems, that spending can promote long-run economic growth. But if the government increases deficit spending when the economy is at or near full-employment output, crowding out is likely to have a more substantial effect on aggregate demand.

Foreign Investment

When examining the loanable funds market in an open economy, foreign purchases of U.S. financial assets and American purchases of foreign financial assets enter the picture. Capital inflows are the dollars that enter American financial markets from other countries; capital outflows are U.S. dollars that leave the United States to enter foreign financial markets.

In an open economy, the loanable funds supply curve consists of national savings plus capital inflows. Interest rates and the stability of a nation's financial system help to determine capital flows. If the interest rate in the U.S. loanable funds market is higher than in other nations, the capital inflow will increase the supply of loanable funds, reducing the interest rate. Similarly, if American financial markets are perceived to have a greater degree of safety and stability than those in other countries, the supply of loanable funds will increase. But if the U.S. interest rate falls relative to the rate in other nations, or if U.S. markets become relatively less stable, the loanable funds market will experience a capital outflow, the supply of loanable funds will fall, and the interest rate will rise.

Fiscal and monetary policies also affect capital inflows and outflows in the loanable funds market. When the government uses expansionary fiscal policy or the Federal Reserve uses contractionary monetary policy, interest rates rise, encouraging foreign investment in American markets. The capital inflow increases the supply of loanable funds, reducing the real interest rate. When the government uses contractionary fiscal policy or the Fed uses expansionary monetary policy, the interest rate falls, reducing capital inflow and decreasing the supply of loanable funds, raising the interest rate.

Importance of the Loanable Funds Market

The loanable funds market is a dynamic market, continually affected by changes in household saving, borrowing by households and firms, government borrowing and policies that affect private sector borrowing and saving, and international capital inflows and outflows. Changes in supply and demand affect real interest rates, which can have long-run ramifications for economic growth. The loanable funds market is critical to the function of the economy, providing the funding to fuel both short-run consumption and long-run economic growth.