the flows. These data illustrate the nature of the Federal Reserve accounts and include additional tables on net debt outstanding and savings flows for years before 1945, as well as a more detailed rendering than appears in the flow-of-funds accounts of mortgage debt outstanding, by type of property and type of holder, since 1970.

The flow-of-funds accounts measure the acquisition of physical and financial assets throughout the U.S. economy and the sources of funds used to acquire the assets. In doing this, the accounts record the net volume of transactions in financial instruments. They provide a means of analyzing, for example, the development of financial instruments and the behavior of sectors over time, and they record the role of financial intermediaries, such as banks, mutual funds, and pension funds, in transferring funds from sectors that have positive savings to those that borrow funds.

In showing the relationship among various financial activities and their relation with nonfinancial activities that generate income and production, the flow-of-funds accounts provide a broad measure of investment activities. In theory, the accounts encompass all net changes in financial claims or liabilities resulting from (1) current transactions in the economy, (2) the allocation of saving between investment in physical capital and investment in financial capital, and (3) decisions to change the composition of financial assets and liabilities. The flow-of-funds accounts are consistent with, but broader than, the national income and product accounts, which focus on activity related to current production and income. Unlike the national income and product accounts, the flow-of-funds accounts include financial flows among various sectors of the economy that arise from transfers of existing physical assets, as well as shifts in the composition of financial portfolios that may be unrelated to, or only indirectly related to, current production.

The flow-of-funds accounts are a component of a system of accounts that describes the U.S. economy. Other components of the system are the national income and product accounts and the balance-of-payments accounts. The latter two components measure production and income activity and international capital flows during a particular time period. The flow-of-funds accounts and related national balance sheets detail how current investment in tangible and financial assets contributes to a buildup of the stock of assets in each sector of the economy and to the creation of national wealth. One can view the flow-of-funds accounts as combining data on the flows of savings and investment in the national income and product accounts with further details on the borrowing and lending of specific economic sectors.

The flow-of-funds accounts embody the principle that all movements of funds in the economy must be accounted for because total sources of funds equal total uses of funds. Savings equals investment in the economy, and all funds supplied by economic sectors become uses of funds by other sectors.

Sources of funds for a sector are its savings from current income and the amount it raises from sources outside the sector. Saving is equal to receipts of current income less outlays for consumption, operating expenses, interest, and other current expenses. The value of capital consumption allowances – that is, depreciation on tangible assets – is added to net saving to obtain gross saving. Funds raised from outside sources constitute the sectors' net increase in liabilities or debts to other sectors.

Uses of funds for a sector are its investment in physical assets and net increases in financial assets, such as deposits, loans made, and securities purchased.

The requirement that sources of funds must equal uses of funds applies not only to sectors but also to individual types of transactions. That is, total funds borrowed by means of each type of financial instrument must equal total funds lent through that instrument. For the economy as a whole, funds borrowed by all sectors must equal funds lent by all sectors, and funds borrowed through all types of financial instruments must equal funds lent through all types of instruments.

The flow-of-funds accounts are published in both flow and levels versions. Most flow tables have a corresponding levels table. A flow variable is one that shows an amount of change over a period of time. Examples of flows are Tables Ce1–68, covering 1897–1949 and showing national savings by major saver groups as well as personal savings and nonagricultural individuals' saving by major components or instruments. Here one can see, for example, how much of personal savings was channeled into the stock market in the 1920s. Other examples of flow variables are personal income, the net acquisition of government securities, and the amount of borrowing from banks, all during a particular period of time such as a year.

A level, also referred to as a stock, a position, or an outstanding, shows a value at a particular point in time. An example is the balance in an individual's checking account at the end of a month or a year. Other examples are holdings of equities by households and nonprofit organizations, and the credit market debt outstanding of (owed by) households at the end of a particular year.

In the flow-of-funds accounts, many flow series are determined by calculating changes in levels between two periods. In some cases, however, the change in a level does not equal the flow. One reason is that some series are shown at market rather than book value (that is, historical cost). For series shown at book value, the flow ordinarily equals the change in the level. However, for series shown at market value, the change in the level between two periods is not equal to the flow. Corporate equities held as assets, for example, are valued in the accounts at market values. Hence, the level for corporate equities shown in the tables for any period differs from that of the previous period by the flow, or net issuance, plus the change in market value (that is, the capital gain or loss).

The flow-of-funds tables presented here for the period beginning 1945 are in levels (Tables Cj1021–1178). They show the outstanding levels of assets and liabilities by sector or by instrument at the end of each year. In most cases, the flow-of-funds tables published by the Federal Reserve (and also available at its Internet site) would have a corresponding flows table.

Interest Rates and Yields

John A. James and Richard Sylla

Interest rates and yields of securities indicate the cost of credit to borrowers and the income received by those who lend and invest. Borrowers traditionally were business concerns and governments, but in the modern economy they also include consumers and homeowners. Lenders include individuals, banks, trusts, endowments, and a variety of other financial institutions, both private and public. This chapter presents a variety of money market rates of interest, bond yield data, rates paid to depositors and charged to consumers by financial institutions, and rates of interest paid by homeowners on mortgage loans.

Borrowers, depending on their needs and the availability to them of various forms of credit, have a choice of borrowing for either short or long periods of time, and in either open markets (for example, the money market or the bond market) or institution-based markets (for example, banks). In open markets, large numbers of borrowers and lenders meet and trade at market rates determined by the demand for and supply of available funds. In institution-based markets, interest rates on loans are determined more by negotiations between the institution and individual borrowers with characteristics that vary widely from one borrower to another.

The open markets, with rates determined by supply and demand, and the institution-based markets, with rates determined by characteristics of individual borrowers are, of course, related and interact with one another. In the early nineteenth century, only governments and large, well-established corporations had access to either open market credit or bank loans, while small businesses and individuals were restricted to borrowing from local banks and other lenders who knew them. In the latter case, negotiated-rate markets, banks collected loanable funds from local depositors and then lent out funds to local borrowers. The interest rate on a loan was negotiated individually with each customer. That rate could differ greatly from borrower to borrower, and even the average of such rates could differ substantially from one geographical area to another, as Table Cj1198–1222 on bank rates on short-term business loans indicates. The average loan rate in local markets could also differ substantially from open market rates in the national money market.

In recent decades, however, banks no longer lend out merely what local depositors bring in to them. If a bank has a loan it wants to make but cannot fund from its deposit base, it can borrow from another bank or itself issue a money market instrument such as a certificate of deposit (CD) or commercial paper to fund its desired lending. Such links between open markets and negotiated loan markets have tended to narrow the spreads of interest rates across geographical regions and over time (see Table Cj1198–1222). The narrowing of spreads indicates a more efficient market, one that allocates funds over the whole economy based on return and risk characteristics. Another way of saying this is that markets tend increasingly to be integrated rather than segmented, so that interest rates and yields are determined more by the overall supply of and demand for funds in the economy, rather than widely varying supplies and demands in separate markets that have few links with one another.

Another aspect of financial market integration is the increasing variety of choices available to participants. In earlier times, a nonfinancial corporation would deposit its surplus funds in a bank or banks. When it needed to borrow, it would borrow from the same bank or banks. Or, if the corporation were sufficiently large and well known, it might be able to borrow by issuing a money market instrument. In more recent times, nonfinancial corporations have not had to rely on banks as the main outlets for temporary surpluses of funds. Instead of lodging such funds with banks as deposits, the corporations can purchase money market instruments such as commercial paper. The development of the open money markets has thus tended to erode the share of banks in the overall financial system. Again, the widening variety of options both for placing funds and for borrowing has tended to make allocation across the financial system more efficient.

The tables in this chapter illustrate many of the general points made in the preceding paragraphs. The interest rate data on money market instruments such as stock exchange call loans and commercial paper extend well back into the nineteenth century (Table Cj1223–1237). The twentieth century expanded the scope of the money market with the innovation of open markets for newer instruments such as Treasury bills, finance company paper, and CDs (Tables Cj1179–1191, Cj1223–1237, and Cj1250–1256). The advent of the Federal Reserve System early in the century was based in part on the desire of market participants and policymakers to widen the scope and utility of open money markets. The Federal Reserve itself is a constant participant in the money market, where it takes actions designed to implement monetary policies. To do so, it can vary the discount rate at which it lends to member banks and the so-called federal funds rate at which banks with excess reserves trade them with banks that have deficient reserves for very short terms, often overnight. An indication of how much the money market grew over the twentieth century is provided by data on the outstanding volumes of commercial and finance paper and bankers' acceptances (Table Cj1179–1191).

Several tables here present data on long-term bond yields over two centuries. The longest series is for U.S. government bonds (series Cj1192). This market began with Treasury Secretary Alexander Hamilton's restructuring of Revolutionary War debts in 1790. Other series show yields of bonds issued by state and local governments (municipals), railroads, and other corporations, as well as – for the twentieth century – what financial economists call the "term structure" of yields or the yields to maturity at a given point in time of similar bonds with varying terms to maturity (Tables Cj1192–1197 and Cj1238–1242). A normal yield curve is often said to be one that shows higher yields the longer the term to maturity of a bond, presumably because the bond investor has to wait longer for the return of principal. However, yield curves sometimes invert, showing higher yields for shorter maturities than longer ones.

The tables also show what may be called consumer interest rates, including the rates consumers earned when they deposited their funds in financial institutions and the rates they paid when borrowing from banks for auto, personal, and credit card loans. Finally, the tables present interest rates on home mortgage loans in recent decades. Before the 1930s, there was no nationwide market for home mortgage credit. However, that changed in the later decades of the twentieth century with the advent of federal programs to make mortgage credit more widely available and of mortgage securitization that packaged mortgages and used the packages to back mortgage securities. This once again represented the inroads the open markets made on activity once confined to the negotiated, institution-based markets.