

FINANCIAL HANDBOOK

FIFTH EDITION

EDWARD I. ALTMAN

INTRODUCTION

THE “NEW” FINANCIAL ENVIRONMENT

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INTRODUCTION

THE “NEW” FINANCIAL ENVIRONMENT

Arnold W. Sametz

Since 1968 when the fourth edition of the *Financial Handbook* was published, the **financial environment** of the United States—indeed of the world—has undergone radical change. Not since the 1930s, when depression and financial collapse led to radical restructure of **financial institutions** and instruments has there been such deep and widespread change in financial markets. By contrast to the 1930s, when deflation was the principal radicalizing factor (but like the 1890's when monetary expansion was the prime disturber) the initiating factor in the alteration of the financial environment was a quantum leap in the **underlying rate of inflation** and widened band of fluctuations around that higher average rate.

The rise of the underlying rate of inflation from the 2–3% of 1950–1965 to the 5% of 1965–1975 and the 9–10% of 1975–1980 (with an annual range of 6–12%) was accompanied or followed by at least three major shifts in the financial environment: **rises in both financial and business risks, increased internationalization of financial markets, and decreased regulation of financial markets**. It should also be noted that the 1970s were a decade during which the **real standard of living** of Americans ceased rising.

For our purposes, it is sufficient to assume that inflation was and is the prime instigator of the changed behavior by holders and issuers of financial assets and financial liabilities and thus of changes in financial institutions and instruments. This is not to say that **financial deregulation** may not have been a cause of inflation, but it surely was a reaction to inflation. Nor is it to deny that changes in **real economic growth and productivity** affect the rate of inflation; rather, we concentrate on how inflation and the accompanying changes in the financial environment affect the “real” economy, that is, the consumption and investment patterns in the United States. Inflation is discussed in detail in numerous sections of this *Handbook*, including “Money and Capital Markets: Institutional Framework and Federal Reserve Control,” “Savings Institutions,” and several of the sections in Part Two, on international finance, as well as “Performance Measurement,” “Cash Management,” “Capital Budgeting,” “Long-Term Sources of Funds and the Cost of Capital,” and “Financial Decisions for Multinational Enterprises.” Finally, there is an entire section entitled “Financial Management in an Inflationary Environment.”

The changes in the financial environment brought about a significant number of **innovations in financial instruments and institutions**. Financial markets today are quite different from what they were in 1965. We have a revolution to explain!

MAJOR SHIFTS IN THE FINANCIAL ENVIRONMENT

INCREASED RATE AND UNPREDICTABILITY OF INFLATION. The underlying rate of inflation doubled between 1965 and 1972, that is, **before** the oil crisis, rising from 2 to

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4% yearly average with a peak of 6%. It doubled again between 1973 and 1980, rising from 4 to 8% on average, with a peak of 12% in 1974 and again in 1979. Moreover, the underlying rate of inflation not only doubled twice over the period, it became very erratic: as recently as 1975 through 1977 it averaged 6%, though in 1979 it broke 12%. In other words, not only did the **anticipated rate of inflation** rise, the shorter-run **unanticipated range of inflation** also increased to about 50% above and below the expected rate. Additional uncertainty about future price movements was injected because some major components of the price index (food, energy, and housing) also experienced wild fluctuations from year to year. Not only did consumers and businesses need to adjust patterns of spending to suit their changed purchasing power, they also had to adjust their **savings patterns**. This became necessary as relative prices and yields of **financial** "goods and services" changed radically along with the **consumer price index** or the **GNP deflator**.

For example, **interest rates** rose roughly to parallel price rises (though with leads and lags) as lenders required a stable "real" return on loans. This had four major financial impacts, two unfavorable, and two offsetting:

1. Holders of outstanding bonds experienced large capital losses, while issuers of such debt had to lock themselves into historically high long-term rates to raise fresh funds. **Both** borrowers and lenders at long term thus experienced increased risk and uncertainty in this financial market. Indeed there was talk of the impending demise of the **bond market**. The federal government as a debt issuer, however, was less affected by the inflation because federal taxes are heavily progressive, so that in effect government income is "indexed" to inflation, and thus its need to borrow is less pressing. Moreover, the bulk of federal debt is short term—both outstanding and new issues. Federal debt's relative stature improved during this turbulent period.
2. While it was no surprise that lenders were hurt by inflation, equities too turned out to be a poor **inflation hedge** from 1965 to 1980. New bonds could be issued as long as they carried the new higher interest rates; new stock was difficult to issue, and "real" stock prices fell even as consumer prices were rising. More than likely the cause of the decline in equity prices was the lower realized and expected **real return on investment** for U.S. companies.

It turns out that during an unanticipated, rapid, and erratic inflation, business is unable to adjust its prices to its costs fast enough to avoid profit erosion. Thus given price-earnings ratio (P/E) levels, stock prices lag, and the yield competition in capital markets that requires dividend yields to rise, requires that stock price **fall**. In addition, P/E ratios will actually fall as unpredictable inflation increases business risk. But as business learns to adjust to prices more rapidly, and as the inflation stabilizes even at higher rates, stock prices can revive. Indeed we saw a revival, of sorts, in equity prices in the first half of 1980. But for much of the period 1965–1980, total returns from stock included little or no capital gains; dividend yields rose to parallel bond interest rates, with capital losses to those who had to liquidate shares.

3. The only market that provided **inflation-offsetting yields** and no capital losses was the **short-term debt (deposit) market**. And those rates, as has been true for over 50 years, yielded a return that just matched the rate of inflation; that is, the real return was effectively zero. But that was a better return than the **negative** return on stocks and bonds over the past 15 years.

4. Positive real returns over this period were earned only on **nonfinancial assets**. The oldest law of how to live in inflationary times did indeed hold up in 1965–1980: flee to commodities or real assets like real estate, gold or diamonds, or fine art. This implies not only paucity of returns in financial markets, but increased **financial risk** to participants on both the supply and demand side. Our **traditional financial markets** failed to perform appropriately under inflationary conditions. The investing public will desert such markets unless inflation stabilizes or innovations in financial markets offset inflationary impacts.

INCREASED FINANCIAL AND BUSINESS RISK. In addition to the obvious increase in risk implied by the performance of the bond and stock markets as they adjusted to new higher average rates of inflation, there is the additional risk of fluctuations of returns, if average expected rates should become stable. Investors in the capital markets now require higher returns for term investment because **financial risk** of security price volatility has increased. Financial risks to issuers and users of funds have also risen. This is the result of the rise in **business risk** during inflationary periods (owing to increased swings in sales and costs) and the rise in **financial risk** implied in rising **debt-equity ratios**, rising ratios of short-term to long-term debt, and especially the fall in the **earnings coverage ratios** that are typical of inflationary eras. The average U.S. industrial ratio of debt to total assets rose from 34% in 1950 to over 52% in 1980, and these statistics fail, for the most part, to include the large increase in lease financing.

The impaired profitability of inflationary times threatens internal equity financing and raises the amount of required debt financing that is needed if investment plans are to be carried out. The impaired capital markets drive business away from stock and bond issues and toward short-term borrowing. The rise in debt plus the rise in interest rates results in sharp decreases in the “times (interest) charges earned,” the cash flow indicator of financial risk.

DECREASED FINANCIAL AND INCREASED ECONOMIC REGULATION. The impact of the rise in business (real) and financial risk in the economy—primarily owing to the protracted but erratic inflationary trend—was made more precipitous by shifts in **regulatory policy**. **Deregulation of financial instruments and financial institutions** was stimulated partially by the inflation but in turn accelerated the spread or spiral of the inflationary effects. For example, lifting regulations prescribing interest ceilings on time deposits (**Regulation Q**) and on mortgages (**usury rates**) did allow small savers to keep up with inflation, but it also encouraged expanding **housing expenditures**, which fed the inflationary process. The restriction of housing expenditures used to inhibit inflation, as disintermediation and a credit crunch curtailed the financing of housing. As a result, this time, however, interest rates reached historic peaks (16% mortgage rates in 1980) and consumer credit controls had to be reimposed to break the inflationary spiral in early 1980. On the other hand, expanding regulatory controls in the business sector, such as environmental restrictions, safety requirements, and energy subsidies, resulted in increased **real costs of production**. Thus the regulatory sphere altered the financial environment substantially by raising the average base level of real economic and financial costs and prices.

It should be noted that the unleashing of aggregate **monetary policy**—which controls monetary reserves but leaves interest rates free to vary—leads to greater use of selective controls via **fiscal policy** depending on which taxes are cut and which expenditure streams are altered.

INCREASED INTERNATIONALIZATION. Increased internationalization is the fruit of a variety of deregulatory and regulatory trends. Financial deregulation has been extensive, as exemplified by more **flexible exchange rates** and freer movement of portfolio investment (and even direct investment) and access to **overseas capital markets**. But the increased **economic** regulation in the form of oil cartels also has led to increased internationalization via overseas investment of Near East surpluses.

Increased and freer international financial flows, like domestic freer flows, results not only in more efficient financial markets—that is, lower **transactions costs** and greater information, and greater allocational efficiency—but also in more rapid and fuller **spread of inflation** and more volatile security price and interest rate fluctuations internationally. The **financial world** is more efficient but also more risky. And it is in response to these new conditions in the financial world that adjustments and innovations in financial instruments and activities have developed.

ADJUSTMENTS AND INNOVATIONS IN FINANCIAL MARKETS AND INSTITUTIONS: RESPONSES OF REAL AND FINANCIAL SECTORS TO CHANGING FINANCIAL ENVIRONMENT

THE REAL SECTOR. **Households**, though of course remaining the prime surplus or saving sector in the economy, increased their borrowing, especially long-term **mortgage debt**, relative to their lending. The latter continued to be short term, though increasingly in **money market investments** rather than traditional savings accounts. Households fought against price inflation via short-term interest rate instruments and sheltered their income against **tax "inflation"** via tax-deductible mortgage interest and real estate taxes, even at the expense of curtailing net **personal savings**. The predominant "hedge" motivations of investors was also evidenced in the rise of "**options**" and "**futures**" and the revival of intermediation via **mutual funds of money market instruments, municipal bonds, and corporate bonds**. The business sector, like household investors, increased its debt ratio, though it is always a net "**deficit**" sector. While for much of the period business borrowed heavily in the short area, it is currently seeking to lengthen the debt and to devise painless ways to issue equity. Intermediate-term **convertible debentures** are a likely current means of adjustment. Business capital market requirements suggest that even **busier times are ahead for financial intermediaries serving the business sector**.

Compared to the household sector, the **business sector** has increased its **debt ratio** (to date) modestly. Business, suffering from restricted profits and thus lower retained earnings, was forced to finance itself externally, largely through debt, especially short-term debt. Business does not choose to sell new equity shares when profits and stock prices are relatively low; and when interest rates are at historic highs, borrowers are reluctant to lock themselves in to such rates via new issues of long-term corporate bonds. As a result, during the 1970s, nonfinancial business financial policy included new ways to economize on needs for short-term funds and means to raise such funds with new instruments.

Corporate finance departments developed new financial forecasting techniques to reduce liquidity needs and to minimize inventories, both of goods and receivables; long-term requirements or capital budgets were reduced by implementing strict **cost of capital hurdles** for fixed investments, based on high interest rates plus increased equity risk premiums. Furthermore, it was often found that outstanding fixed assets were available via merger or acquisition at bargain (stock) prices financed by private debt or through **leveraged leasing**.

And when business had to raise funds, it did so largely through the banks and short-term markets. While banks developed term loans, business developed extensive use of commercial paper, sold directly to other businesses and to financial institutions, including banks themselves. Business also developed new forms of intermediate-term (5–7 year) bonds and expanded its use of custom-made, longer term debt directly negotiated with insurance companies and pension funds. By 1980, while half of all bank term loans were **indexed**, over half of all corporate bonds were **privately placed**. As the 1980s begin, business is showing new interest in convertible bonds and is less reluctant in general to offer a share in equity to major lenders under certain conditions. Innovations in financing business over the long term are developing rapidly, with particular attention to attracting foreign sources of funding.

The government sectors have not been under borrowing pressure because their “incomes”—tax revenues—have been the best indexed streams in the economy. Consequently **government debt** has expanded less than **private debt**. Government finance in this sense has not been under pressure to innovate. Innovation in the governmental sector, however, has occurred in regulatory areas and in methods of executing **monetary and fiscal policies**.

THE FINANCIAL SECTOR. The potential to provide detail in this area is so great that only typical examples of major classes of adjustments of the 1970s can be considered.

Financial Intermediation. The decline of **term intermediation** by depository institutions—borrowing short and lending long—is a major adjustment to inflation, and was a serious step backward in the financial structure of the United States. The parallel rise of **money market certificates** and **variable rate mortgages** to displace **passbook savings accounts** and 30-year fixed rate mortgages is typical. Institutions like **savings and loan associations** were freed to issue savings shares indexed to open market Treasury bill rates and then were forced by competition to issue money market certificates. They then sought to **hedge** their high-cost, **variable interest obligations** by lending the funds out at high, variable rates rather than assuming the risk of high, fixed rate loan assets. The term risk in effect has been shifted from the intermediary to the household.

Term risk is the risk of persistently rising interest rates when fixed rate, long-term outstanding loans have been financed via short-term deposits or instruments; profits will be eroded as the short-term sources of funds have to be refinanced at higher and higher rates of interest, though the income from the mortgages, for example, is fixed. **Term intermediation** under alternately rising and **falling** interest rates rather than forever rising interest rates is another matter.

Default risk is pooled as always, but **term risk coverage** is not offered. Our financial services to households have been diminished. Similarly, commercial banks via **floating** (variable) **term loans** have diminished the “term” aspect of such loans with respect to interest cost if not to maturity. And even long maturity is not assured in the “**Canadian**” **5-year rollover mortgage**, which is subject to periodic renegotiation of all terms. This marks a reversion to the financial practices of the 1920s, when term risk could not easily be intermediated.

The increase in **instrument intermediation**, or **hedging**, to cope with default risk further reduces the financial institutions’ role in intermediation. As we will see, financial institutions are increasingly serving on a “service-for-a-fee” basis rather than serving a risk absorption function. Some financial institutions, for example, **insurance companies**, are curtailing their risks via **reinsurance contracts**. Sections in this *Handbook*, particularly those in Part One, discuss these issues in detail.

Financial Markets. Across the board, financial markets have become more competitive. The listed stock brokers' fixed **commission schedules** were scrapped and negotiated rates mandated by the Securities and Exchange Commission in 1975; currently under discussion is the lifting of **price maintenance of new issues** while in distribution.

Increased competition among underwriters has also come about via commercial bank entry into the **private placement** of corporate securities, both stocks and bonds. Furthermore, **bank leasing financing** can substitute for new debt issues. In the wings is **automation of securities trading** to the point when execution of trades takes place via computer rather than exchange floors. The mechanization of price determination in standardized securities markets is not far off.

Not only have financial assets such as **certificates of deposit (CDs)** and **open market commercial paper (CPs)** become highly negotiable, instruments such as mortgages that are not directly negotiable owing to their uniqueness have in effect become so through **secondary market** and **pass-through** packaging of the nonnegotiable instruments. Many of these innovative markets and instruments were developed under government subsidy and protection; but most of them today are flourishing under private, nonsubsidized auspices.

Financial Instruments. And of course **options and futures markets** are a substitute for buying the stocks or bonds themselves. So too the opening up of markets and expansion of information for foreign securities, especially equities and **Eurodollar deposits and loans**, provides competition for U.S. securities markets. Entire sections of the *Handbook* are devoted to these markets and instruments.

Innovations in the supply of **futures contracts** on financial instruments as well as commodities and other hedged contracts is directly responsive to the demand for instruments as shelters against the increased volatility of interest rates and the associated rise in both business and financial risk. Competition for ordinary savers' funds among **money market certificates**, **Treasury bills**, and **money market funds** is intense. Of these instruments only Treasury bills existed before 1975, and even they were not as well known or available as they are today.

A final example of adaptation to the new financial environment is the awakening of the **mutual fund industry**, not via stock funds but through **debt funds**. In addition to money market funds there are **municipal funds** and **corporate bond funds** and **government funds**. Each type is offered in funds of varying maturities and varying quality, in denominations of interest to even modest personal investors.

As the financial markets have expanded in new directions, they have replaced in part the intermediation of savers' funds through depositories and even insurance-pension contractual funds. We have come a long way since the early 1960s when CDs were first introduced. Today CDs are available to all savers, not just large depositors at large banks. A parallel development of the 1970s was the expansion of CPs as a substitute investment for large CDs. CPs rapidly became a substitute on the borrower side for commercial bank loans.

Financial Institutions. Two polar developments in the structure and function of financial institutions are rapidly taking shape. First, we are on the upside of the long historical cycle toward large, multipurpose department stores of finance and away from specialized institutions. For example, **commercial banks** are entering the **investment banking** business. Second, and quite counter to the first trend, we are also developing highly **specialized financial boutiques**, which permit previously specialized financial businesses, such as securities firms, to restrict their activities to discount brokerage with little or no researching or advisory activities.

Both developments are common to American history, rising and falling depending on economic-financial events and governmental policy. For example, during the 1930s, the last period of radical change in the financial environment—a period of **deflation, depression**, then controls and planned recovery—financial institutions were segregated by law, and their specialized activities were subject to meticulous regulation. During the 1960s and 1970s, a period of inflation and competition and financial euphoria, financial institutions pushed out in all directions, and financial practices became highly flexible as measures of financial deregulation proliferated. Efficiency, competition, and flexibility typify this period, as contrasted with the concerns for safety, regulation, and measured change of the 1930s and 1950s. Currently the bias is toward allowing financial structure to evolve as financial entrepreneurs choose. Historically, such periods have ended when private financial overreaching, errors or misbehavior, and inadequate or misconceived public policy led to **financial crises** and then a period of restrictive financial regulation and supervision.

But since the early 1960s we have seen a remarkable **liberation of financial activity**. Consider the recent evolution of the large **commercial banks** toward continental style **department stores of finance**. In 1961 Citibank introduced the **certificate of deposit** the beginning of its effort to become a “thrift” institution, taking savings deposits and making long-term loans to all, as well as a traditional commercial bank, taking demand deposits and making short-term loans to business. By 1970 the larger banks, having grown far faster than the thrift institutions and having changed the practices in the industry, had shifted their attention to several other financial institution fields. For example, commercial banks, largely via the use of the **bank holding company** device, entered various financial service businesses such as leasing, data processing, and financial consulting. Commercial banks also began to enter the investment banking or securities business (which presumably had been proscribed by the **Glass-Steagall Banking Act of 1933**) such as **private placement** of corporate securities, **underwriting of municipal revenue bonds**, and offerings of **commingled trust funds** (mutual funds of securities) to the public.

On the other side, large securities firms like **Merrill Lynch** were opening “deposit” accounts for customers, entering the real estate and insurance businesses, and within the securities business proper, going into competition with the **New York Stock Exchange** for market making in listed securities. Some of the large thrift institutions are acquiring commercial bank functions: **negotiated order of withdrawal (NOW)** accounts, commercial savings deposits and loans, **real estate management**, and so on. **Insurance companies**, with their expanded term lending to business, annuity packages, real estate, equity positions and property management are also becoming all-purpose institutions.

This trend toward “one big financial institution,” with many functions falling between regulatory stools, is largely a reaction of the large institutions to rapidly changing financial needs and practices, and especially to increasing **financial and business risks**. The all-purpose business is one that is, by definition, widely diversified; thus it is cushioned against risk and well equipped to move in any direction the financial wind blows.

However, reaction to the very same events by less than giant financial institutions can and does result in quite different financial business developments. The “**boutique**” approach (by contrast to the department store or, in this case, a variety store approach) is to specialize in particular financial functions that the business has unique capacity to deliver, for which a demand has been or can be developed, and for which profitable fee schedules can be arranged. For example, securities firms are specializing in **pure brokerage transactions at discount**, others are strictly research shops, selling expert opinions for a fee. Some thrift institutions are becoming mortgage **servicing** rather than mortgage holding businesses; that is, they pass through the loan to other lenders. Specialists in **options, reinsurance, second**

mortgages, and so on, are proliferating. Here the response to increased pace of change and risk is not to diversify but to strip down to lean, adaptable size and to specialize flexibly. In effect such activity involves unbundling the traditional packages of financial services, and leaving many of the money lending and capital functions to others, while offering profitable services at scheduled fees.

In addition to innovation in market procedures and in financial instruments, there have been **innovations in financial institutions**. To cope with inflation and increasing risk, the banks developed money market certificates; and then securities firms responded with **money market funds** and then short-term **municipal funds**; and the insurance-pension fund industries developed **variable annuities**. To cope with expanding volume of trade in less regulated financial security markets, the securities industries developed automated trading practices, competitive brokerage fees, and the beginning of a **national securities market**; then the banks moved into the securities business; brokerage firms shifted to option trading, and so on. Thus have the various financial institutions been responding to the changing environment by changing their structure and functions in free-form fashion.

BIBLIOGRAPHY

- Altman, E. I., and Sametz, A. W., *Financial Crises*, Wiley, New York, 1977.
- Federal Reserve Bulletin*, various issues: "Recent Developments in Corporate Finance" and "Household Finance," Washington, D.C.
- Federal Reserve Bulletin, *Commercial Paper Market*, Washington, D.C., June 1977, 525-536.
- Friedman, B., "Postwar Changes in American Financial Markets," in M. Fieldstein, Ed., *American Economy in Transition*, University of Chicago Press, 1981.
- Goldsmith, R. W., *The Flow of Capital Funds in the Postwar Economy*, Columbia University Press, New York, 1965.
- Kaufman, Henry, et al., "Restoring Corporate Balance Sheets: An Urgent Challenge," Salomon Brothers, New York, July 21, 1980.
- Polakoff, M. E., et al., *Financial Institutions and Markets*, Houghton-Mifflin, Boston, 1981.
- Sametz, A. W., *Prospects for Capital Formation and Capital Markets*, Heath-Lexington Books, Lexington, MA, 1978.
- , et al., "Securities Activities of Commercial Banks," *Journal of Comparative Law and Securities Regulation*, No. 2, 1979, pp 155-193.

PART 1

**U.S. FINANCIAL MARKETS
AND INSTITUTIONS**

SECTION 1

MONEY AND CAPITAL MARKETS: INSTITUTIONAL FRAMEWORK AND FEDERAL RESERVE CONTROL

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MONEY AND CAPITAL MARKETS: INSTITUTIONAL FRAMEWORK AND FEDERAL RESERVE CONTROL

Joseph Bench

The financial officer of a corporation operates within a framework of institutions such as commercial banks, thrift institutions, life insurance companies, and pension funds. This section examines the roles these institutions play in determining interest rates. It also provides a brief introduction to the mechanics of monetary policy exercised by the Federal Reserve Bank. A better understanding of the Federal Reserve's operations—specifically its growth targets for monetary aggregates and its response when money and credit growth either falls short of or exceeds Fed objectives—will help the financial manager to cope with the constantly changing interest rate environment.

THE INSTITUTIONAL FRAMEWORK: SAVINGS SURPLUS AND SAVINGS DEFICIT SECTORS

In the traditional three-sector (households, businesses, and government) economy, there are **savings surplus** and **savings deficit** sectors. In the **savings surplus** sectors consumption is less than current income. In the **savings deficit** sectors current expenditures exceed current income and funds must be raised from external sources to make up the difference. Typically, the **household sector** is a net supplier of funds, since it is a savings surplus unit, whereas **businesses** are generally savings deficit units and therefore are seeking funds from the household sector. This does not mean to imply that every household has more income than it consumes. While there are many savings deficit units within the household sector, the sector collectively saves more than it borrows. In the business sector, there are both savings deficit units (the norm) and savings surplus units, firms that have extra money to invest. Collectively, however, businesses are viewed as savings deficit units attempting to make up the difference between spending on plant and equipment or inventories and income from operations.

Government has always been a deficit sector. The role of state and local governments and federal agencies as savings deficit units, however, is generally limited to periods of depressed economic activity when rising unemployment and welfare benefits, coupled with a slowdown in tax receipts, lead to a deterioration in municipal finances. As recently as

1978, state and local governments showed a net financial investment of \$0.5 billion, acquiring \$25.1 billion of financial assets and issuing \$24.6 billion of financial liabilities.

RISK AVERSION AND THE DEVELOPMENT OF THE FINANCIAL INTERMEDIARY

The description of the savings surplus and savings deficit units suggests a natural flow of funds from saver to borrower. To smooth the flow of funds between surplus and deficit units, there has developed a variety of middlemen or **financial intermediaries**. These intermediaries, which include commercial banks, savings and loan companies, mutual savings, banks, and credit unions, provide a vehicle for diversifying the risks associated with investing in projects and at the same time provide investors with **liquidity**, should they need to use the funds (or wish to redeploy them in another investment offering a higher rate of return) before the project is complete.

The financial intermediary enables investors to **diversify** their portfolios by making them infinitesimally small shareholders of a wide variety of projects. The "law of large numbers" suggests only a small probability that any project will go bust, which allows investors to keep their capital intact. Moreover, the financial intermediary stands ready to redeem (refund) the capital plus accumulated interest on short notice, further assuring investors of the liquidity they desire. [Meanwhile, the financial intermediary recognizes the small likelihood that all investments of reasonably long maturities will go bad and therefore is willing to make long-term investments; even though its liabilities (deposits) are generally short-term.]

HOUSEHOLD DIRECT INVESTMENT AND DISINTERMEDIATION

The household sector does not always invest through financial intermediaries. Individuals do make direct purchases of corporate securities (including both equity and debt offerings), and in many cases will purchase tax-exempt securities to insulate themselves from the tax burden on the income derived from these investments. And when interest rates get high enough, individuals reverse the normal flow of savings through intermediaries, withdrawing funds to reinvest their capital in higher yielding, fixed income investments, such as U.S. Treasury obligations. This process is called **disintermediation**. Financial intermediaries generally react to this phenomenon by sharply cutting back their new investments in real and financial assets, which serves to dampen economic activity in areas deprived of new cash.

FLOW OF FUNDS

Exhibit 1 shows the supply and demand for funds in credit markets for 1978 and 1979. On the demand side, the chart is divided into five major groupings: government, corporate securities, mortgages, consumer credit, and short-term business demands. On the supply side are eight groupings: commercial banks, contractual savings institutions (insurance companies and pension funds), thrift institutions, foreign sources, monetary authorities (the Fed), non-bank finance companies, nonfinancial corporate business (corporations), and other (including individuals and mutual funds) investors. Exhibit 2 gives a more detailed breakdown of the flow of funds by sector.