Commercial Banks and the Central Bank in a Market Economy

By Alan Greenspan

Dynamic economies are always in a state of evolution, but I would guess that there are few examples in history to rival the scope of the restructuring now being undertaken in the Soviet economy. The challenges are enormous, but so are the potential rewards.

As you recognize, changes in financial structure are essential to successful economic restructuring. In that regard, I thought you might find it useful if I explored certain key elements in the financial systems of market economies. Specifically, I will discuss the principles guiding the operations of commercial banks and central banks in these economies. In addition, I will sketch how these principles have been applied in certain countries, including some lessons that have been learned from occasionally ignoring them.

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Principles of commercial and central banking

In market economies, commercial banks serve the key purposes of providing financial intermediation and transaction services. Intermediation is the process of selling financial claims, such as deposits, to savers, and of investing the proceeds in claims on businesses, households and government. This process can reduce the degree of risk and uncertainty in an economic system, thereby lowering the real rate of interest and the cost of capital, which in turn leads to higher investment and a better standard of living. Transaction services facilitate payments for goods, services and financial investments, and thereby support the medium of exchange.

The intermediation process is, perhaps, best understood by considering how a hypothetical market economy might function without commercial banks or other financial intermediaries. For purposes of simplicity, I will

assume that, for this economy, government receipts equal outlays and that the exports of goods and services equal imports. With minor additional violence to reality, I will also assume that all saving is by households and all investment is by businesses. Household claims on business may be in the form of debt or equity capital.

Abstracting as well from the influence of any monetary authorities, the level of interest rates and the associated valuation of equity in this simple market economy would be determined by the supply and demand for savings. In effect, the interest rate would adjust to that level which brings savings, and the demand for savings, that is, investment, into equality. For example, if there were a desire to invest over and above available savings, interest rates would rise until investment intentions fell and savings inclinations increased enough to restore equality between savings and investment.

In the absence of intermediaries, households would have to hold their savings in the form of equity or debt claims on specific businesses. Individual households would be limited in their ability to diversify their holdings among a wide variety of business firms by the high costs of obtaining information about many different companies and of dealing in a large volume of small-denomination securities. Accordingly, each household would have to assume the large risk that default by the particular business or businesses in which it invests could result in a loss of most or all of its savings. A high rate of interest and cost of capital would be required to induce a household to take on such large risks. Households would willingly accept a lower rate of interest if their risks could be reduced.

The key role of commercial banks and other financial intermediaries is to reduce the risks faced by individual savers, mainly by pooling their savings and using them to assemble large, diversified portfolios of assets. The intermediary lends to business enterprises selected, ideally, so that the risks of bankruptcy of the different enterprises do not all depend on the same economic conditions specific to the firm, industry, geographic region, or even the entire economy. This requires specialized knowledge and expertise, as well as a portfolio of sufficient size. As statisticians would put it, there should be a low or, if possible, a negative covariance among the returns on the various investments in the portfolio. Because intermediaries can reduce risk through diversification, they can pay a lower rate of interest to households. With competition among banks, these lower costs of financing are passed through to business enterprises, and aggregate investment, productivity and incomes are increased.

A commercial bank in a market economy sells two types of claims on its own portfolio of assets, the claims of equity holders and the claims of creditors, mainly depositors. Equity capital is a claim available to investors willing to accept relatively more risk in hopes of obtaining a higher average return on investment. A decline in the value of a bank's assets (for instance, because of a borrower's default) is a direct loss to holders of equity claims on the bank.

A household's deposit is also a claim on a bank's assets, but, of course, with less risk than an equity claim. Thus the risk borne by a depositor is lower than the risk inherent in direct household claims on businesses, both because banks can better diversify their larger portfolios, and because bank equity capital absorbs any losses before depositors do.

The value of bank intermediation services is reflected in part in the difference, or spread, between the interest rate received by the bank and that paid out to depositors. This difference is the gross earnings of the commercial bank. From gross earnings is subtracted the costs of doing business: the bank's employee payroll, the costs of relevant equipment, materials, and facilities. What remains after taxes is the bank's profit, which is the return received by equity holders.

If household savers do not sufficiently value the reduction in risk, an intermediary's gross earnings and profits would be inadequate, or in other words, equity holders would not receive a competitive return on investment. The commercial bank would close and the equity capital would be reinvested in alternative enterprises. The closure of such a bank is an appropriate adjustment in a dynamic market economy. In such an economy, the price of goods and services reflects the value placed on them ultimately by the preferences of consumers. Competitive markets price labor, materials, and capital to reflect the desirability of what those inputs could produce in alternative employment. Inadequate profits therefore imply that the real resources the bank is using are valued more highly in producing different goods and services. The bank is not contributing enough value to the economy to justify its existence.

Up to this point, I have concentrated on the role of commercial banks as financial intermediaries. However, there are many special features of commercial banks that tend to distinguish them from other financial intermediaries, including: the provision of transaction services, the offering of deposits redeemable at the fixed price of par, and the financing of smaller enterprises that are not well known—implying specialized skill in evaluating and monitoring individual credits. Because of these special features, and particularly because of their participation in the economy's payment mechanism, commercial banks are usually a subject of special attention and regulation.

In providing transaction and other short-term deposit accounts, commercial banks accept different types of risk, in addition to *default* or *credit risk*, which I have already discussed. If, for example, the average maturity of a bank's liabilities is less than the average maturity of its assets, a sharp increase in market interest rates would reduce the market value of its assets more than its liabilities, and the bank would suffer a loss due to *interest rate risk*. Moreover, a bank incurs *liquidity risk* to the extent that its demand liabilities can be withdrawn more rapidly than the bank can convert assets into cash for the purpose of meeting a drain of deposits.

Equity capital provides depositors with a cushion against possible losses that might arise from all of these potential risks. In many countries, various implicit or explicit forms of insurance also are provided to protect depositors from losses. To the extent that the cost of providing such insurance may be ultimately borne by the government, there is a distortion of the market signals between depositor and equity claim holders in banks. As a result, governments have considered it necessary to become involved in the regulation and supervision of commercial banks, including setting standards for the adequacy of their capital. The appropriate amount of bank equity capital relative to the various possible risks is an issue which is currently being debated in Western countries in considerable detail.

The importance of protecting depositors from losses is not based solely on the desirability of safeguarding the savings of households. A loss of confidence in the soundness of a bank by depositors can engender a contagious withdrawal of deposits, that is, a "run" on the general banking system. This could cause disruptions in the payments mechanism and in the flow of trade and commerce. Moreover, an abrupt, forced liquidation of commercial bank assets can cause bankruptcies among enterprises that lose access to credit, and among banks as well, if assets must be sold at depressed prices. The disruptive effects on the economy of a bank run are aggravated to the extent that commercial banks lend to enterprises that do not have direct access to other sources of credit. However, financial panics and systemic bank runs have not occurred in Western economies since the early 1930s, in part because of the safeguards put into place since that time.

Central banks play an essential role in providing these safeguards. They often participate in setting prudential and capital standards that limit risk-taking and its consequences. However, the intrinsic characteristic of a central bank is the ability to back up the commercial banking system in assuming liquidity risk by acting as the "lender-of-last-resort." Through this lending facility, the central bank provides liquidity to individual banks and to the banking system in general, particularly in times of financial strain. A central bank provides liquidity to individual commercial banks by, in essence, exchanging demand claims on itself for the longer term assets of commercial banks. In actual practice, central banks normally lend cash using the commercial bank's longer term assets as collateral. This facility enables commercial banks holding illiquid assets to meet depositors' claims for funds. The total liquidity provided through such central bank "discount facilities" depends on the level of requests for refinancing from individual commercial banks, subject to quantitative limitations or control of discount rates by central banks.

This total has consequences beyond those associated with liquifying the assets of banks under strain. Theory and practice have taught us that the aggregate liquidity provided by a central bank has important influences on interest rates, economic activity, and the rate of price inflation. Consequently, in order to be able to adjust aggregate liquidity for national policy purposes, central banks have resorted to a number of other methods to increase or decrease the aggregate level of demand claims in the economic system. These have included the direct financing of government expenditures or the purchase of securities in open market operations.

Because demand claims are associated with transaction services, and more generally, because of the liquidity of short term assets, the public is willing to hold them even though they do not pay the higher rate of interest of longer term assets. However, an increased supply of demand claims, for example, is willingly held by the public only if there is a decline in the interest foregone by holding them, represented by a fall in the rate of interest on longer maturities. The increase in demand claims, therefore, may result in a fall in the real rate of interest, that is, the nominal interest rate less the expected rate of inflation. A higher level of liquidity and a lower real interest rate generally tend to stimulate increased private spending on goods and services, which tends in turn to increase the level of economic activity

and put upward pressure on prices, depending on the current stage of the business cycle.

Over the long-run, with the economy generally close to full employment, the effects of monetary policy are felt mainly on the average level of prices. From the description of the effects of changing the volume of demand claims, one might expect the amount of cash in an economy (that is, the money supply), relative to the level of output of goods and services, to have some effect on the general price level and, indeed, such is the case. There is little evidence that short-term fluctuations in prices can be attributed to significant changes in money supply. However, over longer periods, say three to five years, a significant relationship seems to hold. We have found this to be the case in the United States, where the long-run level of prices is closely related statistically to a broad measure of the money supply (M2).

While stimulative monetary policies may reduce interest rates and expand production, these effects may be temporary, reversing over longer periods. Higher inflation and inflation expectations cause lenders to demand *higher* interest rates to protect the real value of their assets. Increased inflation and price variability imply more uncertainty in the economic system, with deleterious effects on investment activity, productivity, and economic growth.

The monetary role of a central bank that I have outlined is distinct from, though related to, the role of fiscal policy. Government expenditures may be financed by taxes, by borrowing from domestic or foreign sources, or by borrowing from the central bank. If large and persistent government deficits are automatically financed by borrowing from a central bank, or from commercial banks with central bank backing, high inflation tends to result. To help avoid such outcomes, the decision-making by central banks should be independent of the fiscal policy process. While fiscal policy focuses on the composition and level of government spending and taxes, monetary policy needs to focus on the appropriate level of liquidity in the economy.

The fundamental aspects of commercial and central banking in market economies may be summarized as follows.

1. Financial intermediaries play a key role in reducing risks by holding a more diverse portfolio of assets than a household saver could obtain. As a result of competition among intermediaries, this reduced risk is passed along in the form of a lower interest rate for borrowers.

2. The risk faced by an individual depositor in a commercial bank is further reduced by the loss-absorbing role of bank equity capital.

3. As a consequence, commercial banks are also able to offer depositors improved liquidity, a fixed par value of deposits, and transactions services.

4. Central banks, as institutions distinct from commercial banks and from the fiscal role of government, have two main purposes in market economies: (a) to supply liquidity as required by depository institutions but, at the same time, (b) to make certain that the degree of aggregate liquidity is consonant with stable prices.

Practices of commercial and central banking

These fundamental principles of commercial and central banking hold for a great variety of institutional, cultural, and historical settings. They have been applied in a variety of ways, and have also been violated from time to time, in the experience of the major Western nations.

One important way in which commercial banking differs across Western countries and within countries over time, is in the degree of specialization of financial institutions by the types of savers or borrowers with whom they customarily deal. In some cases, specialization of financial intermediaries is the result of government laws or regulations, while in other instances it is the historical outcome of marketing decisions by private persons.

In West Germany, Switzerland, and a number of other countries, so-called "universal" banks combine commercial banking with the underwriting of corporate securities and other investment banking activities. In the 1930s, concern about potential conflicts of interest and the financing of stock market speculation led some countries, including the United States, to make a legal separation of commercial and investment banking.

These concerns of the 1930s may have been somewhat misguided in emphasis. In general terms, universal (that is, combined commercial and investment) banks enjoy the advantages of a wide diversification of activities, and they may promote competitive efficiency in financial markets other than commercial lending. However, they may lead to a greater concentration of market power in the financial sector in general and in the industrial sectors they finance, raising the cost of capital to the economy as a whole. They also raise questions about the scope of coverage of special government protections for banks, which could end up stretching well beyond retail deposits to a variety of sources of funds financing a wide range of activities. Nevertheless, with the increasing internationalization of financial markets in recent years, the continued separation of commercial and investment banking activities has come under serious review.

Within the broad category of commercial banking itself, cost savings from a larger size or greater scope of activities are not an important consideration beyond a fairly modest size. Specialization may therefore occur at times because an enterprise finds a profitable niche in a differentiated market. However, much specialization has also resulted from governmental efforts to promote assistance to particular economic sectors or geographic regions. Creation of specialized institutions as a matter of policy has sometimes been motivated by the idea that the credit needs or savings opportunities of certain groups might not be adequately serviced by private markets. But constraining diversification through the creation of banks specializing in narrow economic sectors can make intermediaries much more vulnerable to credit risk.

Limitations on the geographic, functional, or sectoral scope of activity of financial institutions have existed in a wide range of countries at various times. In Japan, for instance, there is a distinction between city banks and regional banks, and a separation of long-term credit and trust banks from short-term commercial lending institutions. Even in West Germany, there are specialized banks co-existing with the dominant universal banks.

In the United States, geographic specialization is largely attributable to restrictions on interstate banking and on intrastate branching, in some cases. Mainly as a result of geographic restrictions, the United States has a large number of small, local depository institutions, in contrast to the banking systems of other industrial countries. In addition, the United States, like other countries, has laws to promote lending for specific purposes. For example, a

specialized "thrift" industry exists to promote housing finance and a separate farm credit system is designed to aid the agricultural sector. Because of the limited diversification of their asset portfolios, specialized financial institutions are subject to greater risks when there is a decline in the performance of the sectors or geographical areas they support. Such was the case for the U.S. agricultural sector in the early and mid-1980s. The losses of thrift institutions in this decade have illustrated the great risks involved when geographic and sectoral specializations are combined.

When considering special assistance for a particular economic sector or geographic region, it is important to question first whether the markets are not already allocating adequate resources for these purposes. In weighing the social benefits of providing such assistance, the risks to financial institutions imply social costs that are not always taken into account. If special government-supported promotion is justified, there are normally a variety of alternatives to the creation of specialized financial institutions that could be used to provide such assistance, without creating the problems inherent in such institutions.

Since the 1960s, major banking reforms have relaxed branching restrictions and legal distinctions among financial institutions in a number of Western countries. Some countries, like the United States, have followed a gradual approach, but in any case the general trend has been to enlarge the scope of activities of financial institutions and to relax their geographic restrictions.

The structure of banking systems also affects the way governments, including central banks, provide depositor protection and liquidity services. An important factor affecting the operation of the banking system in the United States, given its large number of independent banks, has been the existence of federally provided deposit insurance. A credible system of insurance on bank deposits, together with the assurance provided by the central bank's discount window, reduces the likelihood of a "run" on banks. This allows policymakers to focus on regulatory and managerial issues when an individual commercial bank confronts a liquidity or solvency problem. However, government-backed deposit insurance can allow unsound institutions to have continuing access to deposit funds. Therefore, careful regulation and supervision of banks is required in such a system. In countries with more concentrated financial sectors or with less certain guarantees of deposits, the need is greater to consider the macroeconomic implications of the provision of liquidity to individual commercial banks.

The structure of a financial sector more broadly can also influence the degree of independence of central banks from fiscal authorities. In the absence of markets for government securities, central banks are sometimes called upon to help finance government expenditures by providing demand claims directly to the government in exchange for government debt. Alternatively, central banks may be asked to help finance the purchase of government debt by commercial banks in attempts to avoid the crowding-out of private borrowers induced by large government deficits. In either case, if the creation of aggregate liquidity by a central bank is dictated by persistent, large fiscal deficits, rapid inflation results, as shown by the experience of some developing countries.

If an economy has broad secondary markets for government securities, a central bank can focus on appropriate adjustments to

aggregate liquidity through timely market purchases or sales. While the existence of securities markets expands the instruments available to a central bank, it does not guarantee the independence of a central bank from fiscal policy decisions or from political pressures that may ignore the long-run effects of monetary policy. Among Western industrial countries, West Germany's Bundesbank and the Swiss National Bank are often cited as examples of strong, independent central banks. Of course, the low inflation rates in those countries are well known. In other industrial countries, such as Japan and the United Kingdom, central banks have less independence, and the inflation performance has been mixed. In the United States over the post World War II period, the Federal Reserve System has had considerable independence within the governmental structure since 1951, when it reached an agreement with the Treasury Department that it no longer had to fix interest rates on government securities. Independence is most important in cases where large fiscal deficits are likely to occur and the private sector's savings are subnormal.

In the absence of security markets, central banks tend to rely more frequently on direct controls over interest rates and over the composition and level of commercial bank assets and liabilities, which theory and practice show to have undesirable consequences. Requirements for banks to hold minimum levels of reserves—that is, deposits at the central bank—or minimum levels of broader measures of liquidity, have often been employed. At times, central banks have attempted to control the aggregate supply of bank credit through the imposition of limits on lending by individual banks. Credit constraints are sometimes supplemented by a system of subsidies to promote lending to particular economic sectors. At times, ceilings on interest rates have been imposed on loans to favored economic sectors. In the United States as in other countries, for many years there were differential ceilings on the interest rates payable on different types of deposit accounts and on accounts in different types of institutions.

A major shortcoming of quantitative and interest rate controls is that they distort market prices and the allocation of resources in undesirable ways. For instance, an interest rate ceiling for a "favored" sector may result in a reduction in the total credit provided to that sector when other interest rates rise past the ceiling. The consequences of artificial restraints on the general level of interest rates may include inadequate savings in the economy as a whole and excessive capital intensity in some investment projects. Government direction of lending may lead to the financing of unsound projects in favored sectors, while high-return investments in other sectors go unfunded. If subsidies for particular economic activities are warranted, it is generally more efficient to provide them directly, rather than through the financial sector. Furthermore, the imposition or adjustment of quantitative controls may have substantial short-run effects on aggregate economic activity which are difficult to predict. In the long-run, moreover, they may lose their effectiveness, as innovations in financial markets tend to circumvent the controls.

As a result of these considerations, as well as the competitive pressures arising from the global integration of financial markets and other factors, there has been a general movement toward financial deregulation in Western countries in recent years. Today, central banks in nearly all industrial countries attempt to influ-

ence macroeconomic outcomes only indirectly through instruments affecting the cost or quantity of currency and bank reserves.

Within this overall generalization, individual central banks still use a variety of methods. Some central banks have relied relatively heavily on adjustments in their official lending rates, as in Japan until recently. Canada, in contrast, has used variations in government deposits in the banking system as a primary monetary policy instrument. Most industrial countries now rely mainly on open market operations, where the central bank buys or sells some type of financial asset. Open market operations usually involve government debt, but they may also take place using private financial instruments or even, as in the case of Switzerland, foreign currency.

As regards the objectives for which these policy instruments are employed, central banks tend to share the ultimate goal of long-run price stability. It seems reasonable to define this objective as a state of affairs in which inflation and inflation expectations are no longer a significant influence on economic decision-making. Price stability implies reduced uncertainty in the forecasts of relative prices crucial for investment decisions, and elimination of the distortionary effects of inflation taxes on asset returns. For such reasons, price stability can have a substantial positive effect on the prospects for long-run economic growth.

Central banks tend to differ across countries and over time regarding the emphasis given to price stability relative to other short- to medium-run macroeconomic goals. In some cases, it may be important to avoid large deviations of actual output from an economy's potential. A low and steady rate of inflation may sometimes be thought preferable to the short-run costs required to reach stable prices. However, too much attention to short-run output goals may lead to high inflation rates and reduced output growth over the long-run. In some cases, great importance may be given to the short-run stabilization of domestic financial markets or foreign exchange markets. Such considerations, however, may ultimately be counterproductive if they are allowed to obscure or cause long delays in the achievement of price stability.

Monetary policy actions usually affect the economy and prices over long periods. Thus, monetary policy decision-making is inherently forward-looking. In recognition of this, targets or indicators intermediate between policy decisions and ultimate outcomes are often employed to help achieve macroeconomic objectives. There is a wide choice of targets or indicators that have been used, or advocated, including: the growth rates of nominal and real income, nominal or real interest rates or exchange rates, or the growth rates of various monetary aggregates.

Many of these targets or indicators must be used cautiously or in conjunction with other indicators. Inordinate attention to some types of intermediate targets may not promote the attainment of long-run goals. For instance, attempts to hold interest rates at unsustainably low levels have been shown to result in accelerating inflation. Even gradual increases in nominal interest rates may not be sufficient to contain an accelerating inflation once it begins. Similarly, attempts to maintain unrealistic exchange rates may lead to destabilizing international capital flows, and ultimately have to be abandoned.

In the 1970s, the relationship between the growth rates of the money supply and the subse-

quent growth of nominal and real incomes appeared to be close. During that time, a number of the Western industrial countries began to pay closer attention to the growth of one or more measures of the money supply. It was hoped that a monetary quantity would provide a reliable nominal anchor that could be used to achieve a stable price level. In the 1980s, however, some of the traditional relationships between money and income appeared to shift and to become more unstable. As a result, less reliance has been placed on monetary growth targets in recent years. Nevertheless, as I mentioned before, we have found in the United States that a reliable long-run relationship remains between the level of prices and a broad monetary aggregate (M2).

In closing then, we see that a wide variety of alternative financial systems and central bank operating procedures may be consistent with the achievement of a society's long-run objectives. However, historical experience has also shown the importance of the fundamental principles underlying an effective banking system and a sound monetary policy: diversified portfolios and adequate capital in commercial banks, and a timely and adequate, but not excessive, supply of liquidity by a central bank.