III. THE Emergence of FINANCIAL INSTABILITY.

1. Some Organizing Principles

Economic crises have recurred throughout our history and the immediate postwar years were no exception. And the structure of our monetary and financial system has also been a disputed issue since the early days of the republic. The restructuring of the Second Bank of the United States under Andrew Jackson, wildcat banking, the National Banking Act enacted under Lincoln, William Jenning Bryan’s "cross of gold" perfomation, and the events culminating in the creation of the Federal Reserve System—all these disputes and acts concerned monetary and fiscal policies.

echoed Franklin Delano Roosevelt’s clarion call to drive the money changers out of the temple and his administration ushered in basic monetary and financial reforms.

Ours is a capitalist economy with a sophisticated, complex financial system and privately owned capital equipment that depends upon the pursuit of private gain or profit to organize/production and the creation and control over the capital assets needed in production.

Because our system is so structured that debts are used to finance control over capital assets, our economy may be seen as a complex of money in--

Every financial instrument, whether a short-term note or bond or insurance policy, constitutes a commitment to pay out cash to its holder at some future time, whether precisely defined or indefinite. Thus the paper world of our economy may be considered as one setting up dated, demand, or contingent cash flows. The debtor needs funds to honor commitments, and he can obtain them from cash on hand (which only moves the problem back a step), from contributions to the production of income (wages and profits), from the cash generated by financial contracts he owns, from the sale
of physical or financial assets, or by borrowing. This list exhausts all but one of the possibilities—the actual production of cash, a method legally open only to the sovereign and, in a special way, to banks.

A firm's balance sheet, which lists its physical and financial assets on one side and liabilities on the other, provides a view of its sources and uses of cash. The difference between sales revenues and out-of-pocket costs make up the "grossest of profits," and this cash flow is imputed to the physical assets used in production. Financial instruments owned account for other cash flows. In addition to the above-named sources a unit can acquire cash from the sale of physical or financial assets. A company's gross sales proceeds derived from its current output is a cash flow that can be broken down into various cash flows, such as the wage bill, profits, and the cost of purchased supplies.

Payment commitments are liabilities that can be either dated (as in the case of bank loans or bonds), or demand or contingent obligations, and they include both repayment of and servicing charges. The cash to meet these obligations can be obtained either from cash flows such as profits, from cash on hand, from the sale of assets, or by borrowing. A unit that expects its cash outflow over a given period to exceed its inflow is engaging in speculative, or Ponzi, finance, expecting to obtain the needed cash by selling some assets or by borrowing.

Banks, savings and loan organizations, and other users of short-term and demand debt face the possibility that in any short period the cash outflows whose liabilities make them flow will exceed its cash receipts. Those particularly vulnerable to cash drains will tend to hold large amounts of cash or readily marketable assets to meet such contingencies. However, once this reserve has been
drawn up, the problem of replenishing it arises.

Some readily identifiable assets of a firm such as its physical plant in bank portfolios or loans --assets that may be called the "position" of that unit--do not lend themselves to the quick generation of cash, and if a unit finds itself in sudden need of cash other sources must be tapped such as the sale of more accessible assets or loans. The acquisition of cash to finance essential assets of a business is called "position-making," and the instrument used to make position is the position-making asset or debt. The asset acquisition and cash management operations of banks, other financial institutions, and ordinary corporations are often separate functions.

Modern commercial banking largely takes the form of lines of credit which the borrower can draw on when the need arises. Thus almost simultaneously with a loan being entered on a bank's books the borrower will draw on it to meet other payment commitments. Line-of-credit banking makes for a clearing loss almost immediately upon extension of a loan. In the case of a Federal Reserve member bank, a deficiency in that bank's deposits at its Federal Reserve branch bank will appear almost simultaneously with the extension of the loan; the lender bank will lose in the clearings.

Most member banks have executives for seeing that their deposits at the Federal reserve are kept at the required level. This executive must have the power to generate cash flows, for a favorable cash flow is prerequisite to the acceptance of short-term debtor's liabilities, be a bank, a firm, or a country acting as banker to the world. Once a creditor loses confidence in a debtor's ability to generate cash he will be reluctant to hold that debtor's liabilities. This reluctance in turn will set off a cash drain and tax the debtor's ability to develop a favorable cash flow.
Ultimately a bank's power to have its liabilities accepted rests upon its ability to cut off lending, which an action designed to force a favorable cash flow as the loans on its books fall due. This, however, is a drastic measure, tantamount to a liquidation of its going business, with its traditional borrowers. A bank therefore needs some leverage, position-making instruments, so as to force a cash flow when needed without affecting its basic operation—i.e., the short-term financing of business ventures. At the end of World War II, when the commercial banks were saturated with government securities, Treasury Bills served that function.

Unlike the stock market, which is a broker's market, the government security market is a dealer's market, where the dealer actually owns the commodity he trades, if only for a brief period. In a broker's market the seller acts as a go-between bringing buyer and seller together. He does not own the instrument being traded. A dealer with a sizeable inventory may be faced with the very real problem of financing his position. The obvious solution would appear to be either loans either from banks or from other organizations holding excess cash. Consequently a market used for position-making is likely to give rise to dealers who buy and sell for their own position and who keep the price of a security from fluctuating wildly with supply and demand. The existence of the dealer's market makes a security a good position-making instrument.

Banks like any other commercial firm seek to make the largest possible profit, consistent with their view of what constitutes a legitimate risk. And even though they prefer short-term financing, they maintain that they take the long view. They make money by finding new ways of increasing the return on their assets while decreasing the cost of their liabilities.
dynamic, innovative, entrepreneurial banking system will constantly seek out new instruments and new types of contractual arrangements, and the changes in the position-making instruments used are one aspect of this fresh approach.

2. The Evolution of Banks' Position-Making Instruments

The instruments used by commercial banks in making position changed in the course of the postwar period. Before the war banks favored Treasury Bills; they bought and sold Treasury debts to decrease or increase their cash holdings: i.e., they substituted one asset for another.

Dealers in Treasury Bills needed ready access to cash sources generally turn to commercial banks. Occasionally, however, this avenue is closed to them, nor are they able to borrow directly from the Federal Reserve Bank. In one such instance, a major New York bank, Manufacturers Hanover Trust, discontinued its normal loans to dealers yet allowed that if all other sources of financing were closed to them, they would extend loans to them. Implicit in this arrangement was the understanding that if Manufacturers Hanover developed a reserve deficiency because of the financing it would have access to the Federal Reserve's discount window. This indirect access to the Federal Reserve via a commercial bank solved the position-making problem of banks when they held large quantities of government bonds. It obviously would not be equally effective if banks did not use Treasury debt to make position.

If an organization is unable to make position in assets such as Treasury securities it can do so by borrowing. The Federal Funds market was the first supplementary position-making market open to commercial banks. By the mid-fifties the use of Federal Funds as a position-making instrument, both on the part of very large and smaller banks, had become common practice. The Federal Funds market has remained a major factor
such deposits—has become a key rate in our economy.

If we assume that the total volume of position-making activity is related to the total volume of financial assets, then banks, if they are to be able to function with a diminished cash and reserves/total assets ratio, must develop a wide range of marketable position-making instruments. Because total bank assets have increased relative to their reserve deposits and vault cash (see Table 00), banks have had to develop reserve liabilities that would generate a flow of reserve deposits for the issuing bank while freeing reserves throughout the banking system. One such reserve-economizing deposit introduced in the early 1960s is the large-denomination certificate of deposit (CD), which, at least in principle, is negotiable. It has since become a favorite “money-buying” instrument of banks. By making available a large amount of comparatively short-term funds, these negotiable certificates have become a prime funds source for institutions with a heavy loan volume. The mushrooming CDs have allowed banks to expand its at a faster rate than reserve base. These increased time deposits have allowed banks to overcome the constraint on their credit growth which a lagging increase in its reserves would otherwise have imposed.

Another technique favored by government security dealers and commercial banks is the so-called repurchase agreement—the simultaneous sale of an asset, say a group of government debt instruments, and the commitment to repurchase them at a fixed date, be it the next day, the next week, or whenever. The selling price as well as the repurchase price are contractually fixed. The repurchase price, set by negotiation, does not necessarily reflect the interest rate on the item being traded.
A repurchase agreement removes the deposit involved from the base used to determine reserves. If such an agreement is executed with a non depositor regardless of it will shift reserves to the bank, but whether the party to the agreement is a depositor or not, it is a position-making technique. Moreover, it can also be used as a way of circumventing ceilings on interest rates.

Banks also borrow from their foreign branches to make position. In buying dollars abroad (Eurodollars) and transferring them to the United States, banks can affect the amount of available reserve deposits. If, for example, a foreign branch of an American bank borrows Eurodollars and transfers them to its home office, these funds are then either on deposit in the United States or have been paid for by some other currency, say West German marks. If the purchased Eurodollars are deposited, the reserve base has not been increased but the total dollar amount of deposits against which deposits must be kept has been lowered. If the Eurodollars have been acquired through a transfer of German marks to the purchasing bank, then the bank can use the marks to acquire reserve deposits from the Federal Reserve. In this case the making of position by borrowing Eurodollars will increase the total reserve base independent of the Federal Reserve action. During the 1970 credit crunch the banks that were able to use their foreign branches as a source of reserves could "evade" the restrictive Federal Reserve policies through methods not available to others. Consequently the years following many more banks opened overseas branches for the express purpose of bettering their position in periods of reserve constraints.
The discount window of the Federal Reserve Bank is the ultimate position-making instrument of its member banks. This flexible approach to the use of loans, or any other asset for that matter, to generate a cash flow grew out of past experience with financial crises, when the need for a lender of last resort became obvious. In the early years of the Federal Reserve, its discount window furnished a large portion of normal reserve base of its member banks. In the postwar era of big government this function was taken over by the Federal Reserve’s ownership of government securities. Furthermore, in pursuing its income and financial market objectives the Fed now adjusts its reserve base through its trade in government securities. Thus, even though the government security portfolio no longer serves as a bank’s prime position-making instrument, the Federal Reserve, by means of the Treasury security market, adjusts the reserve base of the banking system.

Not all banks are members of the Federal Reserve System. Nonmembers hold about 22 percent of all bank assets, and they keep their cash reserves at other, generally larger, banks that for the most part are Federal Reserve members. They will borrow on the Federal Funds market (usually though not necessarily invariably through the member bank at which they keep their deposits), and they also sell their excess cash through that same market. By borrowing via their correspondents the nonmember banks may actually cause a minor reserve deficiency at that bank, but the latter can, if necessary, borrow at the Federal Reserve.

The smooth functioning of our banking system is thus contingent on the availability of money-market position-making instruments. The system has evolved into a complex in which a bank can juggle its government
securities account, Federal Funds position, CDs, repurchase agreements, Eurodollar trades, and Federal Reserve loans. Such a system is likely to behave much differently from its simple predecessor, in which the Treasury Bill held a monopoly on position-making. And in all probability position-making possibilities will continue to broaden. Such innovative practices are periods of flexible relationship between Federal Reserve policy and available financing. The greater the variety of alternative position-making methods, the slower the reaction to Federal Reserve easements or constraints. This slow reaction is bound to increase the interval between restrictive Federal Reserve measures and the response of banks and financial markets, and to lessen the speed with which the economy responds to monetary policy initiatives. The greater the variety of markets utilized in making position, and the larger the proportion of bank assets acquired through those markets, the greater the likelihood that inept policies will lead to financial crisis. The internal evolution of the financial system decreases the domain of economic stability over a run of good years.

What happens to banks and the market in which they trade is only one side of the financing picture. When banks issue CDs or enter into repurchase agreements with other institutions these sales or contracts become substitutes for their time deposits or promise to pay for demand deposits. By engaging in such transactions they strengthen the banking system's ability to finance activity. Thus the very measures that stimulate the rapid growth of bank financing make for a parallel increase in the short-term financing of nonbank activities and thus tend to make the financial system increasingly fragile.
3. Sectoral Data During the Postwar Period

Despite minor inflationary flurries the first twenty postwar years were a time of financial tranquility. But the 1960s brought ushered in an era of accelerating price increases; inflation and unemployment began to pose a real threat. Why this sudden change in economic behavior? Part of the answer may be found in the financial data of the three dominant economic sectors—nonfinancial corporations, households, and commercial banking.

The balance sheets that make up the financial system are interrelated, and so the trends found in the household and business sectors are not without relevance to the trends found in the balance sheets of the commercial banks.

The element of time bears both on financial decisions and on their close correlate: investments. Both are made today with an eye on the future. Therefore, and because they deal with the vagaries of future costs and outputs, both are of necessity based on today's uncertain feelings about the future.

The capital assets used in production must be financed, and the decision about which instruments is best suited depends on the structure of the financial system and perceptions about what the future holds in store. While technology may circumscribe the choices about production, financial choices are not so limited. Sudden shifts in views about what makes for an acceptable financial structure can and do occur. The Great Depression doubtlessly colored the view about what constitutes a desirable liability structure. In the 1930s it was a widely held belief that banks were institutions that lent money only to those who did not need it. In other words, both borrowers and lenders were risk-averse. The postwar prosperity initially was viewed as a transitory phenomenon, and (potential) borrowers as well as lenders shrank from
business, and financial institutions showed a much larger proportion of government debt and a much smaller amount of private debt than in the past (see Table 00). The government’s safe financial assets dominated the balance sheets of the major economic sectors.

Between 1950 and 1974 government debt decreased relative to total debt, while the corporate debt/total debt ratio rose. State and local debt as a percentage of total debt continued to climb up until 1960, and subsequently stabilized at about 7.4-8 percent of total net debt.

The indebtedness of individuals and the noncorporate business sector and mortgages shows a similar sharp rise between 1946 and the mid-sixties. The growth pattern of noncorporate debt relative to total debt obviously changed in the early sixties; household and noncorporate debt seemed to reach a plateau (see Tables 00).

Throughout the postwar period the ratio of government debt to GNP has a downward trend, and the corporate debt/GNP ratio has continued to rise. Both state and local government debt as well as individual and noncorporate business debt manifested a rising trend between 1946 and 1965; since that time these sectors have moved within narrower limits.

The tapering off of state, local, and households indebtedness while the ratio of federal debt decreased and that of corporate debt rose coincided with the growing financial instability. The significant changes that took place in the mid-sixties can be traced in a series of charts for the various sectors, although these offer only a portion of the total picture (see Charts 11). Four of them deal with nonfinancial corporations and business firms, two with households, and four with commercial banks.
between 1950 and 1965

As we can see from Chart 1, the corporate sector became increasingly
dependent on internal financing as far as fixed investment was concerned.
This trend was rudely interrupted in the mid-sixties. Since that time a
growing proportion of fixed investment came to rely on external financing,
which would seem to indicate that as the corporations began to show a greater
desire to invest, our sophisticated financial system was able to accommodate
that quest. If nothing else, this chart points up the futility of the
type of theorizing that transforms statistical data into universal truths
without examining the conditions that generate the numbers involved.

Chart 2, which deals with the ratio of liabilities to gross internal
 corporate
funds, indicates, however, crudely, the relationship of cash payment commit-
ments to a measure of the validating cash flows. No trend was discernible
until the mid-sixties, when a strong upward movement set in. Obviously
the cash flow from their operations now provide corporations with a sub-
stantially smaller cover for debt than was the case earlier.

Chart 3 deals with the cash assets relative to liabilities shown on
 corporate balance sheets. Other liquid-asset indicators, such as the ratio
of liabilities to non-default assets, show the same upward trend; however,
as we can see, the rate of growth increased in the late fifties and possibly
again around 1970.

Chart 4 shows a measure of the liability structure of corporations.
The ratio of open-market paper plus borrowings from finance companies to
total liabilities is indicative of the attraction exotic financing holds
for corporations. And though this constitutes only a minor portion of
total corporate liabilities it is a substantially richer source of funds than
was the case twenty years earlier. The reliance on this type of financing
apparently first increased around 1960 and then again in 1969-70. The
second jump possibly reflects a view that the Federal Reserve's handling
of the 1969-70 crunch—extending its protection to these markets—made such corporate liabilities safer than they had been in the past.

Charts 5 and 6 depict two indicators of the financial development of households. The ratio of household liabilities to disposable income rose between 1950 and 1965; and has remained fairly stable since. The ratio of liabilities to demand deposits and currency shows a similar pattern—a relatively steady upward trend for about the first fifteen years, followed by a leveling off. In terms of the simple measures used here the household financial picture appears to have stabilized over the past decade; however, if the liabilities had been adjusted to the rising interest rates during that period the upward trend would have continued.

Charts 7 through 10 show some aspects of the financial relations of commercial banking. According to Chart 7, the ratio of financial net worth to total liabilities moved upward between 1950 and 1960, when it began to decline steeply. The equity protection, as conventionally measured, where the value of assets is not adjusted to allow for increases in the interest rate, fell sharply. Were such revaluations made, the ratios shown here would be cut considerably. Also, the ratios here are large compared with those for the giant bank holding companies. Overall, the capital adequacy of banks by any measure has fallen sharply in the course of the past 15 years.

As we can see from Chart 8, the ratio of total liabilities to protected assets—i.e., assets whose market value will be protected by Federal Reserve intervention—increased slowly between 1950 and 1963, and more rapidly since that time. Chart 9 shows the ratio of demand deposits to total liabilities, which manifested a downward trend throughout the entire period; in 1960 this rate of decline accelerated, largely because of the introduction of negotiable CDs.
The ratio of bought funds (nondeposit funds plus large negotiable \( \text{CDs} \)) to total liabilities is found in Chart 10. This relationship remained fairly stable until 1962 or so, when a steep upward rise set in.

The above survey of financial data indicates that the speculative element in finance has increased. And because other sectors of the economy have undergone similar changes, the financial system today is far less robust than in the past.

It is my contention that the changes in the behavior of our financial system that began in the early 1960s (indicated by a vertical line in the graphs) have speeded up the trend toward financial fragility. In the early sixties our economy underwent a change, and today it is different from that of the first-fifteen postwar years. Fringe banking institutions and practices, such as business lending by finance companies and commercial paper issued by corporations, REITs, and nonmember commercial banks, have increased at a faster pace than other major parts of the financial structure. With the increase in such institutions-member banks, and particularly the huge money-market banks, have become de facto lenders of last resort through formal lines of credit accommodation.

What we now have is a system in which the Federal Reserve is the lender of last resort to giant commercial banks, and they in turn act as lender of last resort to fringe banking institutions. As the REIT crisis of 1974 showed, the hierarchical model of the National Banking System (1863-1913) has in effect been reinstituted.

Hierarchical banking relations can weaken the financial system.

Fringe banking institutions draw upon their lines of credit when other channels become either too expensive or unavailable for a variety of reasons, among them doubts about the lender's reliability or a perceived weakness of his asset structure. Thus when banks become residual lenders they are refi-nancing institutions which market considers weak, and their assets may be
such bailouts are likely to have a cumulative effect. Financial fragility can be both progressive and contagious and our hierarchical financial structure facilitates both the progress and the contagion.

The pattern that has developed obviously contains the potential for serious economic disruption, and the introduction of additional layering in finance and of new credit instruments is still further evidence of the ever greater fragility of our financial system.

The story told by the charts reflects the way in which financial resources are mobilized to finance investment in times of expansion. The changes in the balance sheets of the various sectors reflect financing through the activation of previously untapped liquidity sources, pools which tend to lend robustness to the financial system. However, underlying the greater reliance on debt financing of investment and positions in capital assets is a belief that the income of business, households, and state and local government will continue to grow and that the cash needed to meet financial obligations will also continue to flow. But once expectations of limitless growth are dampened, an inherited debt structure can become an untenable burden. When the financial structure approaches and remains near the limit of the acceptable capital accumulation, the financial situation of the economy becomes a matter of fits and starts, of crises and rescue operations. That is what began to happen in the mid-sixties and has continued to this day.