GLOBAL CONSEQUENCES OF FINANCIAL Deregulation

Hyman P. Minsky
Department of Economics
Washington University
St. Louis, Missouri

Working Paper #96
September 1986

Paper prepared for the Wallenberg Forum on
Financial Fragility and Global Growth

The Wallenberg Forum
School of Foreign Service
Georgetown University
Thursday, October 2, 1986

I wish to thank Claudia Campbell for her incisive help and comments. Her input was essential. David Felix's comments on both substance and style were helpful. The responsibility for the perspective and errors in what follows remain mine.
# Table of Contents

I. Introduction......................................................... 1

II. The Financial Instability Hypothesis......................... 5

III. Extension to International Financial Relations........ 11

IV. Regulations and Intervention................................. 17

V. Lender of Last Resort Interventions......................... 21

VI. Stabilizing Profits............................................... 25

VII. Securitization.................................................. 30

VIII. The Pillars of Stability, 1946-1986......................... 39

IX. "Who are the They?" "What Will They Do?".................. 41
I. INTRODUCTION

The regulations, interventions, constraints and institutions of the financial systems of the capitalist world, that are giving way to evolutionary changes in markets and policies of overt deregulation, were largely put in place in response to the financial disruptions of the Great Depression. The Bretton Woods system was constructed with the breakdown of the international financial system in the interwar period in mind. The institutional structure and regulatory practices dealing with banking and finance that were in place in the advanced capitalist economies for most of the period since World War II were designed to correct perceived flaws that were held to be responsible for the breakdowns of the 1930's. In a similar way, many of the interventions in product markets, labor relations and industrial structure that are now viewed as counterproductive were introduced to contain "cut throat competition", which was thought to be a cause of the Great Depression.

One's perspective on the effect of financial deregulation on the world economy and on the meaning and consequences of financial fragility depends on whether our complex, integrated, ever-evolving financial, income producing and distribution system is viewed as equilibrium seeking and sustaining or as normally tending to evolve so that it intermittently produces chaos. Is the result of market systems order, anarchy, or perhaps sometimes one and at other times the other? ¹

If market systems lead to conditions conducive to chaos then we need to explain why chaos is observed only intermittently. The view that it is necessary to
contain potential chaos and that an unconstrained market economy is not an
equilibrium seeking and sustaining system is a foundation of the structure of
institutions, regulations, and interventions that existed in, say, 1948. In this view
a semblance of order out of what would be an otherwise anarchic or turbulent
world is brought about by apt regulations and interventions.

We certainly cannot endorse a blanket rejection of what was put in place in
the 1930's and at Bretton Woods. It must not be overlooked that the very
successful epoch from the end of World War II to the late 1960's - early 1970's took
place in a highly regulated financial environment where major government
interventions were routine matters. Being a parochial American for a moment, the
1930's broadening of the discretion of the Federal Reserve System with respect to
the assets it can acquire and the introduction of formalized deposit insurance for
banks and thrifts seem, to this point of time, to have improved the stability of the
economy without imposing any major costs in allocational inefficiency.

Instead of Adam Smith's invisible hand determining the course of the
economy, under conditions that now rule what happens is the result of interactions
among market determined behavior, the constraints due to regulations and the
impact of interventions. The visible hands of treasuries, central bankers,
refinancing consortia and monetary funds have intervened to keep business cycles
within bounds. As a result of successful interventions the economy has generated
an approximation to tranquil or well ordered behavior, punctuated only by minor
recessions, over the past twenty years. This has happened even though the
underlying conditions have been such that a serious, prolonged recession or even
another great depression may have been possible.

To understand experience since World War II, it is necessary to break with
key abstractions that underlie the dominant strains in economic theorizing. These
abstractions lead to monetary phenomena being added onto a theory that is first
developed by ignoring money, financing and the institutional structure of
capitalist economies.²

We need to do our thinking in a framework that integrates money and
finance with the preferences, production possibilities, limited existing resources
and maximizing framework of conventional theory. This means that we can no
longer accept the neoclassical or monetarist convention that there is a real economy
that grinds out what can be called full employment and there is a monetary system
that autonomously misbehaves, or perhaps is mismanaged, so that crises and
disasters, such as great depressions, occur.³ If we link money to banking and
banking to the financing of activity or positions in assets, then the determination
of both total outputs and particular productions cannot be divorced from the
monetary system.

In a monetary economy, money is a liability of banks and the assets of
banks are debts of businesses, firms, households and governments. Such an
economy has distinct price levels for capital assets and current outputs. This
means that powerful disequilibrating forces are internal to the economy. Under
conditions which are likely to occur reactions to market signals that are not
constrained by regulations or offset by interventions will make an initial
disequilibrium worse, not better.⁴

Our type of economy under conditions that can quite reasonably be
expected to develop tends to fly off towards a disaster, i.e. what happened
between 1929 and 1933 resulted from endogenous reactions.⁵ The economy is not
always flying off towards disaster, however. So we need to explain how disaster
prone conditions develop and how interventions and regulations can contain or
abort the thrusts to instability. What stability and orderly growth we observe is at
least as much due to the interventions and regulations that constrain and affect market processes as it is to the characteristics of market processes.

This can be formalized by interpreting interventions and regulations which abort a dynamic process that would yield a disaster as imposing new initial conditions. This way of looking at the economy makes history the result of piecing together constrained runs of dynamic processes which if left alone would have produced chaotic behavior.\(^6\)

There is a need to distinguish between the allocational efficiency of a regime of regulation and intervention and its stabilization efficiency.\(^7\) The economist's case against regulatory schemes is that regulations or interventions lead to allocational inefficiencies. The wisdom of eliminating or altering a regime of regulation or intervention does not rest solely upon whether it improves allocational efficiency; the wisdom depends upon the regime's joint impact upon allocational and stabilization efficiency and a judgment as to the value of the trade off.

Although the general topic of our forum is "Financial Fragility and Global Growth" and my paper's title is "Global Consequences of Financial Deregulation", it would be intellectually akin to carrying coals to Newcastle for me to emphasize what little I know about the latest financial innovations.\(^8\) An academic economist's knowledge of financial market and banking usages usually is many paces behind what is actually happening, especially when the spectrum of products and relations are changing rapidly. What I can best do is put forth a general view of what financial fragility is, its relation to financial and system instability, and how both fragility and instability are the result of the normal functioning of markets in our intensely financial economies. Furthermore I can try to help us understand why the repercussions of fragility have been contained since the 1960's
and speculate about whether the success of the past in containing financial instability and its repercussions should lead us to believe that the next time an episode occurs it will be readily contained.

The possibility of carrying coals to Newcastle is too attractive to wholly resist. Therefore I will use the hot financial development--securitization--to illustrate some of the concepts of the Financial Instability Hypothesis.

II THE FINANCIAL INSTABILITY HYPOTHESIS

Every analysis of the effects of policy actions and institutional changes upon system behavior depends upon a theory of how the economy functions. Because the theory that guides my thinking is different from the conventional economic theory, it is useful to sketch the theory that underlies what follows.

My view places the monetary and the financial dimensions of market economies on a par with preferences and production possibilities. It has been remarked that "Marx was a Socialist who studied Capitalist economies, Marshall was a Capitalist who studied Socialist economies and Keynes was the first Capitalist who studied Capitalist economies". I take this to mean that Keynes integrated the monetary and financial aspects of capitalist economies into the explanation of employment, relative prices, total output and the composition of output. Keynes's theory is an investment theory of output and a monetary or financial theory of investment. The theory is relevant only to economies with sophisticated financial systems.\(^9\)

In Keynesian theory negotiations between bankers and businessmen /clients about the financing of holdings (positions) and investments are the starting point for understanding capitalism. This starting point is far removed from the point of departure of orthodox theory, which begins with individuals who are possessed of
an initial bundle of goods who meet at a market to exchange. Both models examine moves from an initial to what is deemed to be a preferred position that are guided by the player's perceptions of self interest. The difference is in the subject of the decisions. In the orthodox case the subject is consumption now, in the Keynesian case the subjects are asset holdings, investment, and liability structures over a time horizon. Perhaps we can paraphrase Orwell by noting that "All economic agents are equal but some agents are more equal than others."; what happens in banker/businessmen negotiations is more important than what happens in consumer commodity choices.

The end products of the negotiations between bankers and businessmen are:

1) An exchange of money today for promises to pay money in the future,

2) The spending of the money in some agreed upon fashion, and

3) The borrower follows an agreed upon program which is expected to yield sufficient cash to fulfill the promises to pay the banker. If the "banker" is a commercial banker then negotiations do not involve how the banker will fund his part of the deal. If the banker is an investment banker then the instruments which the banker will market to get the funds for the borrower will be a subject of negotiations.

During the negotiation the borrower needs to demonstrate to the banker/lender that sufficient cash flows can be expected so that the payment commitments will be fulfilled. A non-financial business is an organization that obtains cash flows from operations in the economy and uses them to fulfill (or fail to fulfill) commitments on liabilities. The economy also includes specialized financial organizations which hold financial assets that are expected to generate cash and which have obligations to make payments because of their debts. The
economy is depicted as a complex set of cash payments that are inherited from the past, modified by today's activities and stretch forward in time.

The financial structure leads to the prior allocation of cash flows. These prior allocations are a "nut" that operations have to cover, hopefully with a margin of safety. Payments due on household debts are a prior allocation of wages, on government debts of taxes, and on business debts of gross profits after taxes.

The cash flows from income either validate or do not validate commitments made in the past. If they do not then the prospective receivers of cash who are not paid are in a less favorable position than anticipated on both income account and in their ability to finance new forward looking engagements. Their willingness to finance is also adversely affected.

This perspective is clearly in calendar time. The payment commitments on debts are a time series which can be read from the existing outstanding contracts. Today's business profits determine whether today's performance validates past decisions. The difference between gross profits and payments on financial contracts are internal funds available for the acquisition of assets or the financing of investment. Today's profits enter into investment and financing decisions. Business profits face three ways: They do (or they do not) validate past financing and investment decisions, they determine the internal funds available for investment today, and they affect the way decision makers view the future.

Financial contracts, asset values and investments are based upon expectations about the future. As the future of our socio-economic order cannot be known and is not reducible to a known stable probability distribution over well defined, possible outcomes, investment and financing decisions are made under conditions of uncertainty.
Because of uncertainty, the relative prices of assets (money) whose cash flows are assured rise or fall markedly relative to the prices of assets whose future cash receipts depend upon the performance of the economy. This change in relative prices is the substance of Keynes' theory of liquidity preference. In Keynesian theory, the relative price of capital assets and investment output can change markedly and rapidly and, in effect, "call the tune" for economic activity. Uncertainty leads to borrowing and lending taking place on the basis of margins of safety, which are determined by general views of the future. Events can make firms wish to invest less than their current cash flows. When this happens, the pace of investment can collapse.  

A profound insight, the explicit statement of which we owe to Kalecki, is that changes in investment are the main determinant of changes in aggregate profits in a closed small government capitalist economy. Therefore the collapse of investment is more than a collapse in output and employment, it is a collapse in profit flows. This means that the burden of inherited debts increases, the price of capital and financial assets falls, and the ability and the willingness to debt finance investment decreases. 

Profits "show up" in the prices of financial assets, fixed capital assets, working capital assets and companies, determined by capitalizing expected future cash flows and as gross income flows that meet current commitments and fund all or part of investment spending. 

Negotiations between bankers and businessmen are a profit seeking activity. It is an essential input to the capital development of the economy. As we can all observe, however, these negotiations can also be a "game" whose object is to reorganize liability structures in such a way that the current market valuation of a
particular flow of expected gross profits is enhanced. This latter profit-seeking activity is often analogous to a casino.

A taxonomy for the relation between payments committed by the liability structure and the various sources of cash is needed: The language I use may be rather fanciful. Inasmuch as the variables are the expected future cash flows from income and the expected ability to acquire cash by negotiating assets, agents participating in financing negotiations know that the cash flows they are contemplating are "uncertain". The only certain cash is cash on hand. The classification that follows is best viewed as what the negotiators of financial structures have in mind as they work out their deals.

A unit is a hedge unit if the expectation is that gross profits after taxes, for each and every period being contemplated, of existing liabilities and those being negotiated, exceed the gross payments on debts. The liability structure is fully covered by receipts that occur in the normal process of producing income. Dividends on common stock are not included among the contractual cash payments; the larger the equity interest relative to debts the greater the likelihood that a unit is a hedge unit. It is interesting to observe that "commercial loan" (real bills) financing, which was looked upon with favor in the original Federal Reserve Act, provided for operations to yield sufficient cash to repay debts.

A unit is engaged in speculative finance if both the unit and its lenders and investors expect that the total of gross profits after taxes is greater than the total due on the liabilities that now exist but in the near term payment commitments exceed expected cash flows, even though the income portion of the gross profits exceeds the interest (and dividends) due on the liabilities. (Paul Davidson calls it roll-over finance.) In the near term this unit and its "bankers" expect payment commitments to be fulfilled by borrowing. The best example is the government's
rolling over of Treasury Bills. The viability of a speculative financing structure depends upon the proper functioning of particular financial markets. Typically speculative financing is the short term financing of long term positions. Commercial banks are speculative institutions.

A unit engaged in rolling over debts needs to meet the market. Sharp increases in market interest rates adversely affect such units. In the days when long term contracts were almost always at fixed rates, hedge financing was long term financing. Floating rate financing creates a hybrid instrument; the payment commitments on account of interest change with the market, but the payments on account of principal do not adjust to account for, say, inflation. Floating rate financing is equivalent to short run financing with guaranteed refinancing.

The third type of financing unit engages in Ponzi finance or the capitalization of interest. In this case payment commitments exceed their cash flows and they do not earn enough to pay interest on their obligations. These units capitalize interest; they add to their total debts. Capitalizing interest may occur because 1) firms are engaged in long term investment programs which are expected to yield positive cash flows at some future date, 2) interest rates have risen on the debts of speculative financing units, or 3) the returns from activity are significantly below expectations. On balance sheets the plus to debts of Ponzi finance is offset by the minus to the equity account: Ponzi finance leads to an erosion of equity, a decrease in margins of safety.\(^\text{13}\)

The economy consists of a mixture of hedge, speculative and Ponzi financing units. A hedge financing unit can fail to meet its obligations only if its gross profits after taxes fall below expectations. In the aggregate this can happen only if there is a sharp fall in aggregate demand. A speculative financing unit can fail to meet its obligations if its income is below expectations, if interest rates rise
too much or if there is a breakdown in the normal functioning of some set of financial markets. A Ponzi financing unit can run into troubles for all of the reasons that a speculative unit can plus the capitalizing of interest can erode the margin of safety in equity so that lenders are unwilling to continue capitalizing interest. An economy in which the dominant financing form is hedge financing will be financially robust. The greater the proportion of firms that are speculative or Ponzi financing the more fragile the financial structure.

The basic theorem of the financial instability hypothesis is that over an extended period of prosperous times the weight of speculative and Ponzi finance in the total financial picture increases, so that the economy migrates from being financially robust to being financially fragile. The logic of this theorem is that 1) within a financial structure that is dominated by hedge finance there will be a plentiful supply of short term funds for financing, so that short term financing is "cheaper" than long term financing, 2) financial markets evolve in response to perceived profit opportunities over a period of good times, 3) risk aversion attenuates over a period of good times leading to the proliferation of financing forms which involve a closer coordination of cash flows out with cash flows in and a reduction in the margins of safety. Close coordination, dependence upon refinancing, capitalizing of interest, and lower ratios of equity to debt financing (one form that the reduction of margins of safety takes) are developments that make the financial system fragile and the economy subject to financial instability.

III EXTENSION TO INTERNATIONAL FINANCIAL RELATIONS

Every liability of a firm, household, government or financial institution and every instrument traded in a financial market must be supported by cash flows. These cash flows can be derived from participation in income production—wages, profits, and taxes—or from financial instruments. A unit can acquire cash
by selling or pledging assets but for this to happen the buyer must believe that cash flows will be forthcoming to support the asset. Irreplaceable art, where the pleasure (including status) of ownership confers value, is the only exception to asset values being dependent upon cash flows.

The same consideration that cash flows must support asset values holds for international indebtedness. The only special difference is that the supporting cash flows may be derived from financial assets or income that is denominated in one currency while the payments are denominated in another. Thus the peso denominated income of a Mexican entity may need to be exchanged into dollars for a commitment to be validated. The terms upon which dollars are available for pesos determines whether commitments can be fulfilled.

The availability of foreign currency to be purchased with domestic funds depends upon the balance of payments of the country and asset holdings that can be negotiated, or pledged. To examine the problem of availability, it is convenient to set the balance of payments into tiers that reflect sources and uses of foreign exchange. In the world there are important financial linkages among countries as well as trade in commodities and services. We need to isolate the net payment commitments of a country because of international financial linkages, which for net debtors are a prior commitment of proceeds from both trade and new financing.

R. S. Sayers' *Bank of England Operations 1890-1914* provides a key for understanding how modern international financial structures work.\(^{15}\) The gold standard Sayers studied was characterized by the Bank of England holding little gold relative to payment flows and by large-scale financial links among countries. In this period Britain earned a great deal of income from its foreign investments.
One of the dictums of Sayers is that "It is the duty of every banker, but
especially of a central banker to be rich."\textsuperscript{16} This can be extended to a country
whose currency is the principal currency of denomination for international
indebtedness. The balance sheet of an entity can be transformed into a prior
commitment of the use of receipts and the prior expectation of receipts from assets
owned. Being rich means that the prior expectation of receipts exceeds the prior
commitments to pay, so that in each period the unit has a positive cash flow to
place or to hold.

If we accord the balance of current trade and services the honor of
occupying tier 1, then we can place the income received from international debts
as tier 2. In the period Sayers studied, Britain had a chronic deficit on trade
account (tier 1) which was more than offset by a large net income on asset account
(tier 2).

The third tier is net new investments abroad. Over the period under
discussion Britain invested more abroad than the surplus from the sum of tiers 1
and 2. The fourth tier is the short term capital movement, or the balancing item.

As a result of the sum of the first 3 tiers usually being negative, Britain
built up short term debts. These sterling balances were valuable to the offshore
holders, which often were private banking institutions, because of their need to
meet sterling payment commitments which arose because debts and trade were
denominated in sterling. These sterling balances were the equivalent of gold to the
offshore holders, whether they were private or central banks.

Thus in the 1890-1914 period, Britain normally invested abroad on long
term even as it borrowed on short term. As a result the (monetary) reserve assets
of offshore banks and debtor countries, in general, rose. The accounts can be
arranged to show that Britain's long term investment abroad was being financed by
capital income from overseas investments and short term borrowings.

Any country with large holdings of foreign assets receives cash flows from
abroad in excess of what it receives because of its trade position. The funds the
debtors use to make these payments must come from either a trade surplus or net
new borrowings. But if lending is market determined, it must be based upon an
expected positive cash flow in the future, which for debtor countries can only
come from a net positive balance of trade.

For debtor countries to have a net positive balance of trade, the creditor
countries need to have a net negative balance of trade. If creditor countries are to
"enjoy" the benefits of their asset accumulation they must run a deficit on their
trade balance. The combination of a positive balance of trade and an
accumulation of offshore assets is viable only as long as the country is willing to
accept additions to its net foreign investments.

Thus for international economic stability, the rich countries of the world --
today this means the United States, Germany (or the European Common Market),
and Japan-- need to maintain domestic employment and even as they have trade
balances that are chronically in deficit. Their net international asset holdings give
these three economic units fiscal independence. During the depression and the
early days in the development of Keynesian economics that followed, the use of
undervalued currency, subsidies and trade restrictions to generate a surplus on
international trade was called a "beggar my neighbor" policy, i. e. a plus to
domestic employment, income and profits was sought by measures that diminished
them elsewhere. If the current world economy is to be stable and grow and if the
potential effects of the fragility of the financial system are to be contained the
United States, the Common Market and Japan need to chronically run deficits on their overall trade accounts and be net investors in the rest of the world.

The great strength of the dollar over 1979-1985 was compounded out of the safe haven properties of the United States and a large positive trade balance by the dollar bloc which included the main oil exporting countries. Furthermore, the success of OPEC caused a vast increase in the nominal value of international trade denominated in dollars. This led to a "banking reserve" demand for the U.S. based dollars by offshore banks.

There was a harmony to the 1890-1914 international financial structure that is lacking in the current structure. In the earlier period, Britain ran a chronic balance of trade deficit, which tended to depress employment and profits in Britain and augmented employment and profits in the rest of the world. The net investment income made Britain's income higher than it otherwise would have been. This supported British demand for non-transportable goods and services, and created the world of Upstairs-Downstairs. What was lost in the trade account was gained back in the investment income account.

By using part of the income from abroad to finance investment abroad Britain was supporting the capital development of the world. By financing these investments with short term borrowings, Britain was creating monetary reserves that could be used as the basis of credit expansion and therefore investment financing.

The disharmony of the early 1980's grew out of the need for the United States to run a large trade deficit so that dollar-denominated debt could be validated even as a good part of income from such indebtedness accrued to the oil countries. Thus by 1984, the United States had the "costs" of maintaining the
international financial structure through its trade deficit even as it did not fully enjoy the benefits from receiving investment income from abroad.

A smooth functioning of an international trade and financial system depends upon reciprocal responsibilities of the countries whose currency is appreciating and those whose currency is depreciating. Except for periods when a rapid net accretion of foreign assets is taking place, countries with substantial tier 2 surpluses need be operating so as to have a deficit in their trade accounts and be net foreign investors. This is not taking place now. Countries with fiscal independence persist in running trade surpluses.

The investment income, long term investment, and short term borrowing of the 1890-1914 period provided a buffer between the foreign exchanges and the balance of trade. If too much in the way of short run sterling balances was accruing the Bank of England would lose gold. The Bank of England would raise the discount rate to keep bank notes on a par with gold. This would quickly be transformed into a rise in long term interest rates, thereby discouraging overseas borrowing in Britain. When overseas borrowing in Britain fell, short term lending by foreign entities in London would decline.

The basic equilibrating mechanism that Sayers described was in the new issues market; it was not in the balance of trade. The equilibrating mechanism did not depend upon large-scale changes in imports and exports. The production system was insulated from transitory changes in gold and foreign exchange holdings.

The current international financial structure does not seem to exhibit the equilibrating financial market adjustments identified by Sayers. Furthermore the patterns of exports and imports are not very sensitive to even large changes in
relative prices brought about by the large swings in exchange rates since the advent of flexible exchanges.

IV REGULATION AND INTERVENTION

The systems of regulation of banking and finance have undergone great and rapid changes in the 1980's. The tendency has been to ease, relax or, in some cases, eliminate regulations that restricted competition among institutions, instruments, and markets. Intervention and innovation—as well as emulation—have greatly increased the kind of assets and liabilities in which banks, other financial institutions and financial markets deal. As a result, the cash flows originating in government, business or household incomes are now split among claimants in different ways than in the more regulated era. In addition, the connection between financing instruments and the supervision, endorsement, prudential regulations, and support activities of government bodies such as central banks, deposit insurance organizations and treasuries have changed. If there is a financial safety net, the texture of the net has changed.

Deregulation is, in part, motivated by ideology. The belief that "The market knows best" is extended by faith to systems which violate the assumptions under which the standard theorems of economic theory, that point to the virtues of the market technique for organizing cooperation, are demonstrated. If the market 'truly knows best' then regulation is always counter-productive. But even the abstract market systems studied by the mathematical economists are not globally stable. If instability is an inherent property of market economies, then apt systems of regulations and interventions can improve matters. 17

It follows that policy makers must assume that economic systems with complex intertemporal and financial linkages are unstable and that if
unconstrained, market reactions will amplify initial disturbances. In such systems, deregulation and regulation modification that are not based on an understanding of market reactions can do harm. If we assume that those who introduced and participated in the development of the structure of regulation were responding in a rational way to market developments, then the changes that are driven by a deregulation ideology and which ignore the possibility of instability, will, in time, prove to be counter-productive.

There is nothing in economic or banking theory that demonstrates that an unconstrained banking system will not break down. Observations from history indicate that the management of financial markets cannot be left to market forces. Interventions, which reflect a knowledge of how market processes can make things worse and which adjust as markets evolve, can make things better.

The deregulation movement also reflects unsatisfactory experience with regulations that are poorly designed or which became obsolete with market evolution. Regulations cannot be set in place once and for all. Regulators must be aware that the regulations in place, if effective, are foreclosing transactions that would otherwise be profitable. Just as taxation systems are subject to avoidance and evasion, regulations induce market behavior and evolution that circumvents the regulation. Furthermore evasion may come from organizations or by means of instruments that are outside the scope of the regulator’s authority. Eternal vigilance and awareness by regulators and legislators of how markets evolve is necessary.

Financial deregulation in the past decade also reflects the impact of 1) new computing and communication capabilities, 2) changing relative interest rates, 3) greater variance of interest rates and 4) floating exchange rates as well as the ideology of deregulation. The deregulation of the 1980’s is as much, or more, a
question of adapting to changing markets as it is the result of legislated or
administrative changes. As Richard Aspinwall noted,

Generally speaking, regulatory changes follow, rather than lead, changes in
market practices. Successful avoidance of old regulations is usually a
prerequisite to the promulgation of new (and more liberalized) ones. The
experiences with deposit ceilings and the interstate positioning of banks and
their holding company affiliates are prominent examples in the United
States.18

Even as deregulation was proceeding, a series of crises in financial markets
or of "important" units led to large scale interventions by central banking
authorities who refinanced and restructured institutions and "paid off" holders of
liabilities. If we separate central bank activities into those which aim at demand
management--i.e. to affect income, employment, and the general price level--and
those which are lender of last resort interventions--i.e. designed to maintain the
nominal value of assets and liabilities of financial institutions--then in the 1980's
the incidence of lender of last resort interventions increased.

In various episodes it became clear that the first priority of central banks
(broadly defined) is to act as a lender of last resort. The credit crunch of
September 1966 was the first, serious post World War II episode in which the
Federal Reserve intervened as a lender of last resort. Since then there has been a
number of lender of last resort interventions, such as in the liquidity squeeze of
1970, the Franklin National-REIT debacle of 1974-75, the Hunt/Bache silver
affair, the collapse of Penn Square and Mexico, the failure of Continental Illinois
and to contain the impact of disinflation since 1984.

When a crisis occurs central banks are first committed to containing the
damage by validating the selected debts. After this is done, they need to use their
power to change the regulatory framework and institutional structure so that
developments such as those that forced the intervention will not happen again.
Instead, as far back as the Franklin National crisis of 1974-1975, the regulatory
authorities adopted a permissive attitude to overseas exposure and instrument innovation by banks and financial markets.\textsuperscript{19}

Central banks, deposit insurance organizations and treasuries have a responsibility to assure that the banking and financial system functions in a "normal way". For this to rule, there cannot be a precipitous drop in asset values. This implies that the central bank and depository insurance organizations assure the refinancing of specified organizations and markets. These institutions have a guaranteed line of credit.

The central bank, therefore, is in a banker relation to ordinary banks and other financial institutions. By providing a guaranteed line of credit, it has the banker's right to information and to set standards for borrowing. Thus central banks and depository insurance organizations, like ordinary banks, set standards for assets, liabilities, equity, and reserves of their potential borrowing clients. Prudential regulation is an extention of normal business practices.

Regulation and intervention always have a moral hazard dimension. In the absence of deposit insurance, a bank would be subject to depositor surveillance so that a run would occur if the bank lost the confidence of depositors. With deposit insurance, the need for depositor surveillance is much diminished. This may mean that banks and other financial institutions will take more adventuresome positions. The central bank and the deposit insurance organization have to replace customer surveillance in order to contain the exposure of banks. Therefore regulation is the other side of the coin of deposit insurance.

Another dimension to regulation can be characterized as the need to contain disaster myopia. For present decisions whose correctness will become apparent only in the future, perhaps in the distant future, success can breed behavior that
leads to failure. As I put it many years ago, "stability induces instability". The pattern of financing after a period of success can induce a thinning of the margins of safety between cash flows in and out. It can also lead to patterns of borrowing that 1) are made on the basis that the value of the asset will appreciate and 2) that reflect optimistic views about cash receipts. In this setting speculation--betting on asset appreciation--rather than industry--betting on cash flows from income producing operations--becomes a more important determinant of financing. Regulating financing practices, to block such speculative financial behavior, would be desirable.

Although it might be a worthy objective to prevent speculative finance, it is very difficult to set up a regime of regulation which long remains effective against speculation. This is particularly true as the regulators live in the same environment as the regulated. The decrease in the risk aversion or in the perception of risk by financing units is accompanied by a greater permissiveness by the regulators.

In the 1980's the attenuation of regulation which constrains instruments and access to markets has been accompanied by an increase in lender of last resort interventions. It is a mistake to equate deregulation with a shift to the market determination of outcomes. The change has been from constraints by regulations to protection by refinancing. It seems as if an apparent improvement in allocational efficiency has been obtained at the cost of an increase in potential instability and of interventions to contain instability.

V LENDER OF LAST RESORT INTERVENTIONS

Lender of last resort interventions by central banks and other financial system interveners, such as deposit insurers, are important determinants of system
behavior which guarantee refinancing of some institutions or the price of some set of instruments. The result is that losses of institutions that are deemed of special importance for the performance of the economy are not passed through to their creditors and precipitous declines in the market value of protected assets do not occur.20

Positive cash flows to an organization result from 1) contracts being fulfilled, 2) contributions to current output, 3) borrowing on unsecured notes, 4) pledging assets, and 5) selling assets. The economy’s assets, both financial and real consist of instruments which can be readily sold or pledged as collateral for loans (their markets are wide, deep and resilient) and instruments which cannot be readily sold or hypothecated (their markets are poor).21 The assets for which the market is poor are items like steel mills, office buildings, and bank loans; the market is good for Treasury Bills, commercial paper and some listed securities. The distinction is between liquid and illiquid assets where the liquidity or illiquidity of an asset depends upon the existence and characteristics of markets.

Assets which are readily marketable carry returns that are comparable to the cost of money to financial institutions, therefore these assets cannot be the source of considerable income to financial institutions. Only assets which have poor markets carry expected returns that exceed the market cost of money by a good margin. Such assets are the positions of banks and financial institutions or the capital assets of firms. A bank’s position consists of its loans and perhaps a portion of its investments.

Units engaged in speculative and Ponzi finance are always borrowing in order to pay the principal on maturing debts and Ponzi units need to borrow to pay all or part of the interest. These operations depend upon the continued, normal functioning of the relevant financial markets and the borrowing units
continuing ability to meet the standards of the market. If lenders in these markets believe that the risk-return relations are unfavorable, if the borrowers are not able to change these perceptions, and if attempts to increase returns adversely affect the perceptions of risk, then refinancing or the needed new financing will not be forthcoming. When this happens the speculative or Ponzi unit will need to try to sell or hypothecate assets from its position to acquire cash.

Units which regularly need to refinance their position keep buffer stocks of cash and readily marketable securities on hand so that slight perturbations of the markets or minor shortfalls of cash receipts will not force them to sell assets out of position. This is the origin of bank primary and secondary reserves. Reserves are not in their entirety forced upon banks: An unregulated, prudent banker, who is normally but not excessively risk adverse, would keep such buffers.

A shortfall of financing or refinancing can occur because the flow of cash from assets falls below what had been expected. This increases the dependence upon external financing. In this case some assets are not performing and cannot be sold or hypothecated to make position. The assets that are usable are performing assets. If the unit is alone in this predicament and if there is time to seek buyers and negotiate deals, then the price realized for the assets being pledged or sold off will likely approximate the book value.

If a sizable number of units are in the same or a similar predicament, then a large fall in the value of the assets being used to make position is likely to occur. This will compromise the net worth of units which are forced to sell these assets above and beyond the losses due to non-performing assets. There will be a double impact on the equity account, the first from nonperforming assets and the second from the fall in the price of the assets being used to make position.
If all units periodically mark assets to market, then the net worth of organizations that are holding assets whose market value falls, will visibly decline. A pervasive decline in margins of safety provided by equity occurs when a class of assets declines in value. If some of the affected organizations are engaged in speculative or Ponzi finance, they will experience refinancing difficulties. If these organizations do not mark to market but the general contours of their portfolios are known, then their equity shares will decline on the markets to reflect the compromise of asset values.

Situations in which assets with thin markets have to be sold or pledged in order to fulfill the commitments to pay of speculative and Ponzi finance units are steps in the emergence of financial crises.

As initially unaffected units mark to market a contagious decline in equity occurs. The possibility of an epidemic exists. This is when lender of last resort interventions are called for. Lender of last resort interventions prevent two pass throughs of declining flows of profits or asset value losses from taking place. These pass throughs are to the broadly distributed liabilities of financial institutions (demand deposits and deposits at thrift institutions) and to the market values of still performing assets.

The essence of lender-of-last-resort interventions is to obviate the need for protected institutions or participants in protected markets to make position by selling out position. This protection is a major stabilizer of the economy. When financial innovations occur it is necessary to inquire into the circumstances in which lender of last resort interventions might be required, what these interventions would be, and whether there are operators who will undertake these interventions.
The development of very flexible and highly discretionary lenders of last resort and insurers of deposits increases and expedites refinancing, so that the need to make position by selling out position does not occur. The formation of the Federal Reserve System, the reforms of the 1930's that broadened the Federal Reserve's ability to intervene and introduced deposit insurance, and the financial system of the 1940's and early 50's based upon a thick Treasury debt which was protected by the Federal Reserve were arrangements that minimized the likelihood that a significant set of units will be forced to try to sell assets to make position.

To generalize, lender of last resort interventions provide extra-market or concessionary refinancing of organizations that would otherwise be forced to make position by selling out position. As the selling out of positions can lead to a sharp increase in supply in a market where demand is not responsive to price declines, lender of last resort interventions stabilize prices of financial and, presumably, underlying real assets.

Central bank interventions keep asset values from collapsing. As a result, the value of deposits, certificates of deposit, notes, and bonds of the protected organizations do not fall. Inasmuch as the liabilities of banks and thrift organizations are sustained there is no widespread need by households and firms to write down the value of assets. Losses are not passed through because losses are not allowed to happen. As this becomes known, players in markets adjust their behavior which may make crisis prone structures progressively worse.\textsuperscript{22}

VI STABILIZING PROFITS

The critical decisions in an economy are those that lead to the creation of resources which will be available over a run of future dates. Resource creation is a capitalist economy involves decisions about physical investment and financing.
Both investment and financing involve intertemporal exchanges in which money "now" is exchanged for money over a run of "tomorrows". We will call money tomorrow the validating cash flows.

The questions that cash flows raise and answer are "Did we pay too much for the investments we made 'yesterday'"?" and "Should we have financed these operations in the way we did?" If the validating cash flows are sufficient then the price levels of capital assets and investment output in the past were not too high and the payment commitments on financial instruments are fulfilled.

In a pre-World War I or even a 1920's capitalism, national governments were small and consumer debts were of trivial import. Debts were mainly due to private business and the validating cash flows were business gross profits. In these economies almost all wages were used for well nigh current consumption. Given the small government the total wage bill was approximately the wage bill in the production of consumption goods and the wage bill in the production of investment goods.

If we assume that the total wage bill, and only the wage bill, is used to buy consumer goods, the end result is that

1) wages plus profits in consumer goods production equals the sum of wages in the production of investment and consumer goods. This becomes

2) profits in consumer goods equals wages in investment goods. Because

3) wages plus profits in investment goods equals investment. We therefore get
4) profits equals investment.
In this argument profits and investment are gross, inclusive of capital consumption allowances and replacement investment.

The above gives us a macroeconomic theory of profits in which profits exist not because capital is productive but because investment demand makes consumption output scarce. What happens in product and service markets is a "competition" for profits.

Between 1929 and 1933 a recursive set of interactions led to a sharp decrease in asset values, investment, gross business profits, employment, output and prices. On very broad fronts, units were not able to fulfill commitments on debts and new financing for investment virtually vanished. Out of this experience the concept of stabilization policy was developed and government became responsible for stabilizing the economy.

The critical need is to prevent sharp decreases in profits. In a simple economy this requires that "investment" does not fall.

One way to achieve this is to remove investment from the private profit maximizing decision part of the economy and socialize it in order to stabilize gross investment. When we look deeper into profits other possibilities arise. Profit in the production of consumer goods is due to spending on consumer goods in excess of the wage bill in the production of consumer goods. Wages paid by government are just as effective as wages paid by producers of investment goods in financing demand for consumer goods. By making sufficient heroic assumptions the simple profits equals investment equation can be transformed into:

5) profits equals investment plus the federal deficit.
Government deficits tend to "show up" in business gross profits. If the
government legislates spending and taxing programs by which spending minus tax
revenue increases when private investment decreases then gross profits will not fall
by as much as investment. Furthermore if the reactions of spending and taxing are
strong enough, either because of the inherited relations or because of legislation
that changes the relations, gross profits might increase even as investment
decreases.

The profits formula can be expanded to allow for the trade deficit which
decreases profits, saving out of wages and consumption financed by profits. An
analytic framework that integrates the flows of money that result from the
production and distribution of income and the financial structure needs to explain
how the cash flows--wages, profits, tax revenues, and international trade and
investment--that support household, business, government and international
financial commitments are determined.

As Warren McClam has pointed out a government deficit means that debts
are issued and borrowing takes place. The mix of "paper" in financial markets
changes and the total demand for external financing is sustained. The government
can be considered to be a borrower of last resort.\(^23\)

Traditionally, government debt has been a higher grade asset than private
debts. If the decline in private investment that triggers the decline in profits
which induces deficits is due to some failure to perform on financial contracts
because of over-indebtedness relative to nominal business profits, then lenders can
be expected to become more risk averse: Losses and non-performance on contracts
induces bankers to be risk averse. Government deficits feed default-free assets
into bank and other portfolios. As the weight of government debt in portfolios
increases, a given overall exposure level can be maintained with a greater weight
to the perceived higher-risk, private debt. A government deficit associated with sustained or even increased profits will quite soon lead to a re-entry of lenders into the market for private debt.

For government to act as a profit stabilizer, government spending and tax revenues must be big enough so that variations in the deficit can be of the same order of magnitude as declines in gross investment. Government must be big enough to generate deficits of as much as 5% of gross national product when output, income and employment fall.

Before we turn to the "quality" of profits generated by investment or government, it is useful to take up the international trade deficit. A surplus on international trade account is a plus for profits and a deficit is a negative.

The "imperialist" pattern, in which the center runs a trade deficit even as the periphery runs a surplus, boosts profits in the periphery and contains them in the center. The income received by the center as interest and dividends from foreign assets is partly spent on consumption and in good part saved. Rentier consumption, especially if financed by overseas earnings, tends to increase domestic profits, demand and output.

Therefore, there are two pillars to stabilizing our unstable economies. One is lender of last resort operations which refinance threatened organizations, stabilize asset values and assure that, for specified institutions, there is no pass through from the failure of assets to perform to the market value of the protected liabilities. Deposits are protected even though assets depreciate in value.

The second is the stabilizing of profits through government deficits. If aggregate profit flows are sustained, then the inability to validate debts will be limited and prices of capital assets cannot fall. Investment, income, employment
and profits cannot collapse. This presupposes that central bank liabilities and government debts are preferred assets.

Even though investment and government debts are equivalent in generating profits, they are not identical in their effects upon the economy. Investment leads to profits and creates resources. These resources can lead to increases in production possibilities so that if demand is forthcoming, output will grow. Government spending may not create resources: it may support consumption or a military establishment. Spending on schools and roads is far different from spending on old age pensions as far as resource creation. There is likely to be a qualitative difference between profits supported by investment and those supported by government deficits.

The efficacy of government deficits in supporting profits depends upon the composition of spending. If government spending leads to industrial profits or if it is heavily weighted by interest payments that become rentier income, then spending minus taxes will generate fewer profits than investment. In particular, the rapid growth of the United States government debt and of its ownership by foreigners have reduced the efficacy of government deficits in triggering expansion.24

VII SECURITIZATION

Securitization is being hailed as the wave of the future, in spite of the danger of the erosion of traditional relations and the lack of examination, supervision and disclosure.25 It is a development that reflects serious underlying trends in the interrelated economies, but first we want to examine the impact on the lender of last resort function. Our examples will use United States institutions and relations.
In a failing bank, where the crisis is due to nonperforming assets, the first step, which occurs when private sources of wholesale financing "dry up", is that performing assets are pledged as collateral for a loan at the district Federal Reserve Bank. This makes it unnecessary for the bank to try to make position by selling assets on the open market for what cash they can fetch. If the infusion of cash from the Federal Reserve is not enough to preserve a positive net worth, then the bank is "failed" by the Federal Deposit Insurance Corporation. "Failure" can take the form of a liquidation (rare for larger units), a takeover by another bank with help from the FDIC, or a reorganization with a major equity position and control by the FDIC.

With either of the common options the assets of the failed bank are divided into those that the successor institution will accept and those it finds unacceptable, such as nonperforming assets and assets which have been compromised due to low interest rates or previous refinancings. The FDIC gives the successor bank sufficient cash so that the books balance. The FDIC now owns the nonperforming and compromised assets, and proceeds to liquidate the assets and often the underlying collateral.²⁶

By this refinancing, failing institutions have no need to sell performing assets; there is no wholesale downside pressure on the prices of assets. Units which own performing assets that are like those the failed institution holds do not suffer a fall in the market value of these assets. As a result the ability of innocent bystanders to refinance is not compromised.

In a modern bank failure the deposit liabilities of the failed institutions are validated. As deposits are a main source of financing for banks and financial institutions, the protection against a decline in the value of deposits means that even banks which are known to be suspect because of their nonperforming assets
are able to retain deposits. This is in sharp contrast to what happened prior to the formalization of deposit insurance.

Securitization is a flexible financing technique that keeps taking new forms. One form is that bonds or marketable notes are issued that are collateralized by financial assets that are physically in the possession of a trustee. The purchasers of the securities are protected either by insurance or over collateralization, not by any issuer's guarantee. The trustee is presumed to act in the best interests of the security owners. 27

The trustee is committed to sell out the collateral and pay off the securities when the cash flow from the initiating and, presumably, servicing organization for the items in the body of the collateral falls short of the amount required to service the securities.

Securitization of financial assets involves five major and several minor players. The major players are

1) the initial borrower who negotiates a contract with an intermediary (bank, thrift, consumer finance organization, leasing firm, etc.). This initial borrower will be the source of the cash flows that will ultimately validate the securities. (An insurer may have a contingent liability.) The obligations to pay of the initial borrower (or the insurer) are not affected if its debt is pledged in a securitization transaction.

2) The proximate lender (bank, thrift, finance company, insurance company, lease company, etc.), who creates financial instruments by negotiating with initial borrowers. Proximate lenders who engage in securitized transactions have a greater capacity to create financial instruments than to fund positions.
3) The underwriter and distributor of the securities creates the deal by finding and bringing together proximate lenders who have a greater capacity to create appropriate assets and ultimate holders (organizations and individuals) who have funds to invest and insufficient capacity to originate financial paper. Except as they may make a secondary market in the security that results, the underwriter disappears from the arrangement after the deal is put together and the securities are placed.

4) The trustee becomes the active middleman between the initial borrower and the ultimate lender once the deal is made and the securities are sold. The trustee has no financial liability, it is not a guarantor.

5) The ultimate lender and holder of the securities may be either an intermediary or a household. The minor players are credit rating organizations and makers of the secondary market in the security.

The underwriter/distributor negotiates with the initial lender to issue marketable securities that are to receive the cash flow from a bundle of assets which are to be the collateral for the securities. The proximate lender turns over to the trustee a bundle of assets which presumably originated in its normal business operations and which are to be the specific collateral for the securities. In exchange the proximate lender receives cash and a residual interest in the collateral.

The ultimate lender buys the securities from the underwriter who delivers the cash to the proximate lender.

In a bank loan the players are the initial borrower, the bank, and the depositors in the bank. In a securitized transaction the borrower-bank connection remains, but the underwriter and the trustee intervene to facilitate the substitution
of market financing for deposits. For securitization to succeed in the market, it must have either cost or availability advantages.

A standard argument is that the securitized operation has cost advantages, primarily because the capital, reserve and FDIC insurance add 175 or more basis points to the cost of a bank loan. But this 175 basis points pays for the protection provided by the bank’s capital and the guarantee of F.D.I.C. insurance. To the extent that it leads to the saving of insurance costs, securitization must involve being open to losses that insurance and capital prevent. Securitized debts escape from the protection of the institutions and guarantees that are the effective lender of last resort. The process increases the risk that a concentration of nonperforming assets will take place in the portfolios of insured proximate lenders.

Securitization is also a response to the availability of financing. Securitization decouples various steps in the debt financing process. If we recall Adam Smith’s dictum that the division of labor is determined by the extend of the market, then with the growth of the sheer volume of financing an increase in the division of labor might become profitable. In banks the interfaces between finance and borrowers and between wealth-owners and finance are coupled into one organization, which is able to interpose a guarantee because of its own wealth, expertise, and the ability to insure against losses by adding a load to rates.

If the intermediation of banks is eliminated, there still would be a need for an organization that selects credits and structures loans. Banks, thrifts, consumer credit organizations, and automobile finance companies have in place organizations that can create paper. In many cases, an organization’s ability to create paper exceeds its ability to finance positions. Syndication and sale of loans to other institutions whose ability to raise money (fund assets) exceeds their ability to create assets is a result. Syndication of loans, the correspondent bank networks of
unit banking, branch banking and securitization emerge out of the imbalances between the capacity to create credits and the ability to finance holdings.

In recent years a large volume of international ability to finance positions in dollars has arisen out of the oil surpluses in the late 1970's and early 1980's. The massive United States trade deficits of recent years also led to a demand for dollar financial assets. These money flows created a demand for dollar financial assets from units that have no capacity to create dollar financial assets. Similarly, pension and money market funds can finance but do not have the capacity to create assets. The combination of excess ability to create paper by one set of organizations and funds looking for placement by organizations that for various reasons cannot, or will not, build a paper creating apparatus lead to specialized intermediaries (investment bankers) tailor-making assets for portfolios by using paper that is available or can be made available out of the normal interface between banks and business, households and governments. Demand and the initiative of investment banker middle men are factors in creating the supply.

Just like any other asset, securitized instruments derive their value from the size and assuredness of their supporting cash flows. In a typical over collateralized contract, the initiating organization agrees to maintain the value of the collateral at all times at some agreed upon ratio to the value of the securities. This means that if any of the assets in the collateral cease to perform, there will be an infusion of performing assets into the corpus of the collateral. If there is some systemic property that is generating nonperforming assets in the body of assets created by the initiating organization, then there will be a migration of performing assets to the trustee and of nonperforming assets from the trustee to the initiating organization. The concentration of nonperforming assets in the initiating
organization will rise, increasing the likelihood that the initiating organization will have refinancing and net worth problems.

Under contingencies which are specified in the indenture the trustee has to sell the collateral and "pay off" the securities. This "selling out" is identical to the making of position by selling out position which characterized bank behavior in the absence of central banking. If this happens on a significant scale the prices of the assets being sold fall. The contagion reactions due to making position by selling position that central banking aborts could occur.

The sell out of assets takes place if the initiating financial institution fails or it cannot deliver acceptable assets to maintain collateral at the agreed upon ratio to the security. This might occur because the trustee marks the collateral to market even as banks and thrifts do not mark to market. Bank and trustee T accounts, so beloved in undergraduate teaching, illustrate this point.

Let us assume a thrift or other proximate lender with assets and liabilities of 200, as in Balance Sheet 1. At this stage the Trustee is not yet activated.

The transaction between the "thrift" and the trustee is an exchange of 90 in earning assets (which is to be the collateral for securities) for 50 in cash and an interest of 40 in the collateral. The 50 in cash is the proceeds from the sale of securities that the trustee receives. (The commission of the underwriter is ignored.) The originating organization buys earning assets with the 50 cash. The account for the securities at the Trustee has assets of 90 and liabilities of 50 to the security holders and 40 to the originating organization. These steps are illustrated in Balance Sheets 2 and 2'.

The agreement calls for the collateral to be maintained at 180% of the liability on the securities. Assume there is a sudden sharp rise in interest rates so
<table>
<thead>
<tr>
<th></th>
<th>Originating Bank or Thrift</th>
<th>Trustee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Assets</td>
<td>Liability</td>
</tr>
<tr>
<td></td>
<td>Reserves 10</td>
<td>Deposits 190</td>
</tr>
<tr>
<td></td>
<td>Earning assets 190</td>
<td>Equity 10</td>
</tr>
<tr>
<td></td>
<td>Total 200</td>
<td>Total 200</td>
</tr>
<tr>
<td></td>
<td>Reserves 10</td>
<td>Deposits 190</td>
</tr>
<tr>
<td></td>
<td>Earning assets 100</td>
<td>Equity 10</td>
</tr>
<tr>
<td></td>
<td>Cash 50</td>
<td>Equity 10</td>
</tr>
<tr>
<td></td>
<td>Trustees Liability 40</td>
<td>Equity 10</td>
</tr>
<tr>
<td></td>
<td>Total 200</td>
<td>Total 200</td>
</tr>
<tr>
<td></td>
<td>Reserves 10</td>
<td>Deposits 190</td>
</tr>
<tr>
<td></td>
<td>Earning assets 150</td>
<td>Equity 10</td>
</tr>
<tr>
<td></td>
<td>Trustees Liability 40</td>
<td>Equity 10</td>
</tr>
<tr>
<td></td>
<td>Total 190</td>
<td>Total 190</td>
</tr>
<tr>
<td></td>
<td>Reserves 10</td>
<td>Deposits 190</td>
</tr>
<tr>
<td></td>
<td>Earning assets 150</td>
<td>Equity 0</td>
</tr>
<tr>
<td></td>
<td>Trustees Liability 40</td>
<td>Equity 0</td>
</tr>
<tr>
<td></td>
<td>Total 190</td>
<td>Total 190</td>
</tr>
<tr>
<td></td>
<td>Assets</td>
<td>Liability</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Reserve</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Earning Assets</td>
<td>126</td>
<td>Equity - 14</td>
</tr>
<tr>
<td>Trustees liability</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>176</td>
<td>Total 176</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Assets</th>
<th>Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Deposits</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td>34.60</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>155.40</td>
<td>Total 155.40</td>
</tr>
</tbody>
</table>

4) Trustee sells out assets leading to further 10% fall

<table>
<thead>
<tr>
<th></th>
<th>Assets</th>
<th>Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Deposits</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>Earning assets</td>
<td>113.40</td>
<td>Equity - 34.60</td>
</tr>
<tr>
<td>Cash for Trustee</td>
<td>31.00</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>155.40</td>
<td>Total 155.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Assets</th>
<th>Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve</td>
<td>90</td>
<td>Securities 50</td>
</tr>
<tr>
<td>Equity</td>
<td>40</td>
<td>Equity of Originator 40</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>Total 90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Assets</th>
<th>Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve</td>
<td>81</td>
<td>Securities 50</td>
</tr>
<tr>
<td>Equity</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>Total 81</td>
</tr>
</tbody>
</table>
that the value of collateral declines by 10% to 81 (Balance Sheet 3). The trustee
calls the originator to replenish the collateral. Now assume the 150 of assets in the
originating bank performed no better or worse than the assets at the trustee. (They
should have performed worse for the trustee’s portfolio contained no
nonperforming assets) If the originating organization is to add 9 to the collateral
at the trustee, it will have to debit 10 of earning assets and credit 9 to equity in
collateral at trustees. This will result in Balance Sheet 3’.

The securities are protected but the originating organization’s equity is 0;
the trustee now must sell the assets in the collateral to pay off the securities. If
this leads to a further 10% decline in asset values we get Balance Sheet 4’. The
securities are redeemed but the equity account of the originator is negative. The
market value of the 140 as carried on the books will be about 113.40, so that the
negative net worth will be about 35.40.

There are serious dangers in securitization. It creates a claim on assets that
is prior to the depositor’s claim, prior to the claim that is guaranteed by the
insurance fund. (FDIC or FSLIC) One reason for the amplification of fragility
that apparently follows from securitization is that it mixes the investment banking
tradition of marking to market with the present day insured or protected
depository institution practice of using historical values for performing assets.

Marking to market is, of course, theoretically correct. In the days of peak
interest rates, the marked to market net worth of a vast array of financial
institutions was negative. It was the polite convention of using historical or book
value that permitted thrift organizations to remain open even as they bled to death
because their liabilities paid out more than their assets earned.
Securitization has grown very rapidly and any knowledge all but
practioners have of the scope and dimensions of securitization is undoubtedly
obsolete.

These securities have become international assets. When household
mortgages are the basis of international securitized instruments then wages and
employment, rather than profits and international commodity prices become the
underlying economic variables which must be maintained to generate the cash
flows that sustain some international financial assets.

The integrity of the "security" depends upon the wisdom, accuity and
integrity of the original borrower, the initiating financial institution, the trustee,
the underwriter and distributor and the proximate lender, who may be some
institutional money manager. The various parties can be in different countries,
with different traditions of regulation, examination, disclosure and even integrity.
The chain in securitization seems too long, creating opportunity for the erosion of
the protection due to the corpus of the collateral. Furthermore, the possibility that
fraud and incompetence will intrude cannot be ignored.

Perhaps securitization is a signal that success in containing the consequences
of fragile financial structures means that agents no longer recoil in fear and
attempt to become more robust financially when a crisis surfaces. Perhaps success
in containing financial crises is now interpreted by financial market participants
to mean that "They won't let the consequences of fragility emerge", so we can go
forward with the invention of new ways of financing activity, of new ways to
pledge prospective cash flows.
In the context of 1986 the growth of securitization means that even as the power and authority of the interveners and regulators are attenuated, the scope and the dimensions of what must be contained increases.

VIII THE PILLARS OF STABILITY, 1946-1986

The forty years since World War II quite naturally break down into two periods; the first of financial tranquility and the second of financial turbulence. The highly stylized facts are that in the first period,(1946-66 or so) an economic umbrella was provided to the capitalist world by the United States which was expanding rapidly, was financially robust, and was an open market. Under this umbrella, the countries of Western Europe and Japan, each on its own timetable, recovered from the war and went on to new economic heights.

This era was not one of completely smooth sailing. Mild recessions and inflations occurred, but were readily contained. There was a slight upward trend in United States unemployment rates. Throughout this period, a rapid growth in private indebtedness occurred. The financial structure was changing although the institutional and regulatory frameworks were fundamentally unchanged. Whatever financial crises occurred were the result of either fraud or gross incompetence. They did not reflect systemic problems.

Given the prosperity and the apparent robustness of the various financial structures, it is rather surprising that wartime systems of exchange controls and restrictions on international capital movements were retained. It is also rather surprising that the immense liquidity and increased net worth of American entities did not lead to a massive inflation in the 1940’s and 1950’s. Private indebtedness did increase as a rapid rate, but the era 1946-1966 was one of remarkable price stability, income growth, high employment and financial strength.
However, over these two decades new instruments, a greater volatility in interest rates and the increased in private indebtedness were undermining the basis of the tranquil expansion. For example the growth of the Federal Funds market in the late 1950’s changed the way Federal Reserve operations affected system behavior.

The credit crunch of September 1966 was the first major event that signaled increased turbulence. Since 1966 turbulence, innovation, and changing relations among institutions and between institutions and government have characterized the economy.

In the recessions of 1974-75 and 1981-82 interactions between the income generating system and the financial structure that bore a family resemblance to the debt-deflation processes described by Irving Fisher in the 1930’s began, but were aborted by Federal Reserve and other agency interventions that sustained asset values and refinanced organizations that had lost credence in the market and by United States government counter-cyclical deficits.

Fiscal independence is a most useful concept in the political economy of international finance, for it enables us to allocate roles to the various participants in the cooperative enterprise that is the international financial structure. The idea also enables us to understand relations between the gold standard and other systems of international financial relations, such as freely floating exchanges and systems based upon one or more key currencies.

Over the period 1946-1984, the United States was the major, if not, the sole country with fiscal independence. In the latter part of this period, the fiscal independence of the dollar bloc depended upon the positive trade balance and investment income of the oil surplus economies. It is true that in 1979, the power
of the dollar was threatened, but the Volcker policy of defending the international position of the dollar by accepting both very high inflation rates and twin recessions led to a strong recovery of dollar dominance in the early 1980's.

In 1982, as in 1975, a strong fiscal deficit contained the recession so that a sharp recovery took place. Given the international demand for dollars that was generated by desired international asset diversification, there was a huge run up of the dollar and a weakening of some basic United States industries. As a result of the trade deficits of recent years, the United States's ability to function as a rich banker has diminished.

Although the immense size of the United States economy means that the present level of foreign indebtedness is tolerable, it is also true that the unilateral ability of the United States' central banking authorities and Treasury to sustain world stability and expansion by stabilizing and expanding the U. S. economy may very well have come to an end. The main pillars of the success of the post-war international economy can no longer bear the weight of sustaining international prosperity.

IX "WHO ARE THE THEY?" " WHAT WILL THEY DO?"

Over the years when I have discussed the development of fragile out of robust financial relations and the implication that the potential for financial and economic instability has increased, I have been told "They won't let 'it' happen.," "it" presumably being another great depression. My reply has become "'Who' are the 'They'?" and "'What' are 'They' going to do?"

It is easy to accept that the combined interventions by the broadly conceived central bank (the deposit insurance organizations, the Federal Reserve and cooperating private organizations) and automatic and discretionary
government deficits have been successful within the United States in containing the "crises" and "recessions" of the turbulent era since 1966. The proposition can be maintained that the interventions in 1974-75 and 1981-82 contained a serious recession and prevented the financial trauma of serious bank and intermediary failures from escalating into a full-fledged crisis. This success was based upon a combination of refinancing threatened institutions and sustaining, and even augmenting, the aggregate cash flows available to validate the assets of the financial institutions; business gross profits and household incomes were sustained by a combination of government deficits and the failure of private investment to collapse.

If we look at crises in various countries where international indebtedness was not the issue, refinancing and profit sustaining interventions by the national authorities has been sufficient to limit the damage from financial problems.

When international indebtedness was at issue, the International Monetary Fund and various creditor committees have transformed crises into refinanced work out situations, thereby providing a semblance of protection for lenders. Whether or not these operations had substance depended upon the course of the mass of underlying cash flows, which for international indebtedness meant the course of the foreign exchange made available by imports and longer term capital exports by the creditor countries. Economic stability and expansion in the United States, and the associated stability and expansion of the rich countries of Europe and Asia, meant that prior to the 1980's the mass of foreign currency available to validate the external debts of debtor countries had a strong upward trend.

The international crises of the 1980's have occurred in a period when prices of raw materials have declined even as downside pressure on many manufacturing prices became evident. As a result the increasing export earnings
that are needed to validate debt have not been forthcoming. The I.M.F. sponsored refinancings have not bought time during which an underlying rising trend of earnings takes over and generates validating cash flows, because there has been no underlying improving trend. As a result, the refinancings are examples of Ponzi finance, and just delay the day when the value of these "assets" have to be written down to an amount that the underlying cash flows can support.

Even though in many cases the current prognosis is poor, the national interventions and the operations of the international committees and consortia have prevented a full-fledged crisis from developing. It can be argued, however, that the national interventions and the I.M.F. are essentially side shows. From the end of World War II through the Continental Illinois crisis of October 1984, the ability of the authorities to maintain stability and sustain expansion in the United States was sufficient to provide a foundation for international financial stability. In today's financial structure, where the central role of the dollar and the strong net international asset holdings of the United States have been compromised, action such the 1974-1975 and 1981-82 combinations of refinancings by the Federal Reserve and deficits by the U. S. Treasury are not likely to be sufficient to contain the next deep recession and associated financial crisis. Actions dictated by the domestic economic situation may very well trigger international repercussions that make things worse.

The news continues to show that the Federal Reserve and the United States depository insurance organizations still have sufficient power to refinance failed and failing institutions within the United States. The emergence and internationalization of the securitization of financial instruments that originate in financial institutions and which would have been their assets in the past, together with the continued growth of offshore banks, means that there is a vast pool of
dollar-denominated and other currency-denominated assets which lies outside the formal domain of responsibility of the Federal Reserve or of any other central bank. The question of who is to be the "they" that acts as a lender of last resort for securitized assets and offshore banks is not clear. Furthermore the operations that will be effective in supporting securitized assets and offshore banks are not known.

The international economy has entered a transition stage. Its former fiscally independent center, the United States, has lost its strong dominance. The objective economic situation calls for the center to share its responsibilities with other, newly emerged, fiscally independent countries. The accumulation by the European (German mark) and Japanese blocs of strong positions in foreign assets means that they have to dispose of substantially more than their export earnings by imports and long-term foreign investments. The funds to validate the German bloc and Japanese offshore asset holdings, regardless of their currency of denomination, can only come from their trade deficits or the trade deficits of their investment outlets. To the extent the United States is the main investment outlet of the German and Japanese currency blocs, the United States trade deficit provides the validating cash flow for the investing countries asset holdings.

Bretton Woods can be viewed as a mechanism for passing the responsibility for the maintenance of international financial stability from Britain to the United States. The Bank of England's gold standard responsibility combined with its thin gold holdings made it perennially aware of the tenuous nature of its fiscal independence. During the first years of the Bretton Woods era the fiscal independence of the United States was very robust. The pattern developed for United States monetary and fiscal policy to focus solely on domestic income, employment and prices. The international implications of the United States actions
were virtually ignored. Fortunately for most of the era, 1946-1984, what was good for the United States was not bad for the rest of the world.

Today the United States is living with two great deficits: A Federal government and an annual rate trade deficit each of which is about 5% of G.N.P.. These deficits are taking place in an environment in which the "international" or, better, the "currency of denomination" movement of financial assets is much greater than hitherto.

It is not only a German or a Japanese national who might want to and is able to switch from dollar to mark or yen denominated assets but such currency shifts out of the dollar are available to United States based entities. It now costs very little to make an international substitution among assets and the legal barriers to making such substitutions are low. A shift in asset preferences, due to changes in the evaluation of prospects, can very quickly lead to large changes in relative prices of currencies. Such marked changes in relative currency values can be characterized as a run and be thoroughly disruptive to the ability to validate debts and to finance enterprise.

The United States trade deficit has not declined in the year since the major powers met at the Plaza Hotel in New York and agreed to bring the dollar down relative to the other main currencies. The dollar's decline, combined with the lower price of oil, should have brought about an improvement in the United States trade balance. To date this has not occurred. The response to the sharp changes in exchange rates has been sluggish.

If changing exchange rates cannot "cure" a trade deficit, then the more powerful effect of income changes may. If the United States were a minor, debt-ridden, payments deficit economy with a falling exchange rate and a massive
government deficit then the IMF would call for fiscal responsibility and have the United States either cut spending or raise taxes. We can call this a "Mexican" solution to an emerging international financial crisis in which the center is failing to hold.

The formal logic of the Mexican solution is that there exists a United States gross national product that is significantly lower than the current GNP which will eliminate the balance of trade deficit of the United States, if the GNP's of all other countries remain the same. But exports to the United States are significant determinants of the GNP of Korea, Taiwan, Hong Kong, Japan and Western Europe to cite just a few countries. A sharp income-induced drop in U.S. imports will have a devastating effect on the prosperity of the above and other countries, which will lower United States exports and therefore income. The feedbacks among these trading partners GNP's can be devastating; "international equilibrium" if it exists may be at a disastrously low income.

Any substantial decline in the GNP of the United States will lead to a rise in the government deficit. The attempt to balance the budget by cutting government spending and raising taxes will be frustrated by income induced declines in tax receipts and spending. The only way the fiscal responsibility path to the elimination of the trade deficit by the United States could be successful without a great "recession" is if the United States moves to balance its budget are offset by income-expanding policies by the countries which are export dependent and which have fiscal independence. This means that Japan, as well as Germany, must become less export dependent. The other export driven countries such as Taiwan and Korea will have to reduce their export dependency once they become net creditors.
The simplest way to reduce export dependence is to raise government spending, but given the preference of governments for military and transfer payment spending, this may not be the most desirable approach. An alternative way is to raise the consumption income ratio of the new fiscally independent economies. Raising the consumption income ratio is a way of increasing domestic sources of business profits.

The alternative to a policy that mandates a United States recession is for Japan and the German bloc to increase domestic consumption relative to income. Such an expansion of consumption involves more than monetary and fiscal policy. It requires changes in income distribution and financing institutions. Increasing the wage bill relative to GNP in Japan and Germany may need to be combined with a lower relative wage bill in the United States, in order for the consumption-income ratios to be raised in Germany and Japan and lowered in the United States.

We are now in a new era where there are three key currencies: the dollar, the yen and the European currency, (be it the mark or the ECU). The central international financial problem is to make these three currencies perfect, or well nigh perfect, substitutes in international finance. This involves the establishment of a post-Bretton Woods system of contained variability of exchange rates (a snake or a gold standard) among the three principal currencies. In order for this be possible, the three must eschew using export surpluses as the main base for their prosperity. This means that if any one of the three achieves such a surplus, then its domestic monetary and fiscal policies must move to eliminate it. What is traditionally viewed as a favorable balance of trade is unfavorable for global prosperity when it is achieved by a country with fiscal independence.

A changed perspective on income determination is needed. Over the past decades it has been held that exports are good, government spending is bad, high
savings and investment rates are good, and consumption is bad. While these are good and bad for domestic prosperity in a framework where the world economy is conceived of as a competitive race among national economies, it needs to be recognized that good and bad depend upon conditions that rule and that these conditions change as trading and investment relations change. What is good for a national economy at an early stage of its accumulation of international assets becomes bad for both the national and the global economy at a later stage. This is particularly true of an export surplus/high investment/low consumption pattern of aggregate demand determination, and if the point of view is that of the requisites for global rather that local prosperity.

When there is a strong central currency, floating exchange rates for all other currencies is a feasible international monetary system; the strong central currency provides the world economy with a fixed point. When, as now, there are several strong national currencies that make up the international currency, a system is needed in which the managers of the national currencies are committed to act in concert to constrain the relative movements of their currencies.

Therefore I venture to suggest that there is either a super snake or a gold standard, with modern prices of gold and substantial differences between the authority's buying and selling prices of gold, in our future. I also suggest that global financial stability makes it is necessary to define the domain of responsibility of the key central banks as lenders of last resort to the international financial community. The need for a clarification of international lender of last resort responsibilities implies that the development of the regulations and interventions required for the proper functioning of a globally integrated financial structure needs to be on the "agenda".
In The Merchant of Venice Portia eloquently sums up the problem of economic policy when she notes that "If to do were as easy as to know what were good to do, chapels had been churches, and poor men's cottages princes' palaces." In a similar way we can identify the need for a constitution of international financial cooperation and even agree on some of the provisions that it need have, but we must also recognize that to do may not be easy: what we may hold to be self-evident may not be at all evident to the practical men who try to manage affairs even as they are locked into structures of production that reflect what was and need deal with interests that see little wrong with the way things are. It may take a crisis that verges on a disaster before serious moves to share responsibilities and accept diminished national autonomy are made.
The question of whether decentralized markets produce order, anarchy or sometimes one and at other times the other is the critical question in economic theory. For a summary of the present status of economic theory see: Bruno Ingriao and Giorgio Israel "General Economic Equilibrium Theory: A History of Ineffectual Paradigmatic Shifts." *Fundamenta Scientiae*, Vol. 6 No. 1, pp 1-45, Vol. 6, No. 2, pp 89-125, 1985.


"Despite the importance of enterprises and money in our actual economy, and despite the numerous and complex problems they raise, the central characteristics of the market technique of achieving coordination is fully displayed in the simple exchange economy that contains neither enterprises nor money."


This is especially true in the light of the availability of *Recent Innovations in International Banking*, Bank for International Settlements, April 1986.

H.P. Minsky, *John Maynard Keynes* (op. cit.)


10 That Keynes' theory dealt with two price levels one of current output that is linked to wages and the second of capital assets stands out clearly in two post General Theory expositions by Keynes:

"The General Theory of Employment" *QJE,* 1937


16 op. cit. p.27

17 See the references in footnote 1.


20 C. J. Kindleberger has been the key writer emphasizing the importance of lender of last resort interventions. See:


21 Dean Carson "Recent Open Market Committee Policy and Technique" *QJE* Aug 55 pp 321-42.


23 Warren McClam "Financial Fragility and Instability: Monetary Authorities as Borrowers and Lenders of Last Resort". Kindleberger and Laffargue op cit
24 S. Jay Levy and David Levy *Industry Forecasts* Chappaqua, N.Y., July 22-August 21, 1986: "Among the sources of profits explained in our book, *Profits and the Future of American Society*, is government deficit spending. When the firmest major source of profits is the federal deficit, the economy is in trouble."


26 *The Wall Street Journal* during the week of September 2 carried amusing articles about the problems of the FDIC in liquidating foreclosed collateral.

27 Two Salomon Brothers Inc. research reports that I found useful in what follows are:


28 *The Vanderwichen Report* op.cit.

29 H.P. Minsky "Central Banking and Money Market Changes" *QJE* 1957
WASHINGTON UNIVERSITY WORKING PAPERS

Copies of Washington University Working Papers are available from the Economics Department. Requests should be sent to

Washington University Working Papers
Economics Department
Box 1208
Washington University
St. Louis, MO 63130

WORKING PAPER SERIES


