MONEY, FINANCE AND AGGREGATE DEMAND

IN THE SHORT RUN

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Note: This is part of a continuing study of monetary processes and system behavior. At this stage of the game I am more interested in clarifying concepts and identifying processes than in model building.

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The Impact of Financial Variables on Aggregate Demand--Some Observations

I. INTRODUCTION

I will assume that the topic set for this session is to be taken seriously; that is, we are to discuss impact effects. As impact implies immediacy, our interest is in the short run and in the paths that connect financial changes and various components of demand. Our concern is not with whether, in the long run, the effect of how a financial change occurs washes out. Almost all of equilibrium monetary theory is irrelevant to this session.

From the logic of the program--this session is titled the "Effects of Monetary Policy II . . ."--we are to assume that the direction of influence is from Federal Reserve actions to financial variables to aggregate demand. Coming as I am fresh (or stale) from editing a set of studies on California banking, I am not at all sure that the assumption is valid. Within a state, such as California, it seems as if demand is an "independent" factor and the financial variables adjust to demand. That is, instead of "the" influence running from money to income, as some leading economists hold, a major influence seems to run from demand to money. In particular one path running from demand to finance to income to the money supply seems to be very significant in determining what happens.
The reserve base of the commercial banks in a state has to be earned in the large national economy. It cannot be assumed that the amount and the rate of change of bankers money in a local economy such as California is either exogenously determined or the result of a policy decision based upon a sophisticated interpretation of the 'state' interest.

The set of financial variables that are inherited, the financial connections among various economic units, as well as the reactions to financial changes are conditioned by institutional setting. Certainly an economy with a Central Bank that behaves in a particular manner, with specified directives, powers, and known prejudices is different with respect to its financial behavior than a world without this particular Central Bank. For example, it can be argued that an erroneous belief that the Federal Reserve System would protect financial institutions, especially banks, against financial instability contributed to the evolution during the 1920's of financial positions which, in the early 1930's, amplified a downturn into the Great Crash.

Monetary theory, perhaps more than other parts of economics, is a mongrel. To be of value it must incorporate propositions which describe how institutions behave. In such analytical institutionalism, almost always a relevant question is how does this particular set of institutions—with its own peculiar reaction pattern—affect the behavior of the system. In any discussion of impact effects the institutional aspect weighs particularly heavy.
Four topics will be taken up: Two dealing with definitions and conceptions, and two with behavior. In the next section (section II) questions of the appropriate definition of money and financial variables are raised, in the following section (section III) the meaning to be attached to "impact" is examined. In section IV the question as to whether monetary changes can quickly return the system to equilibrium, given an initial change, is raised. The answer put forth is that it all depends—upon the nature of the monetary change and the state of the system. In section V one aspect of the state of the system—the demand and supply of accommodations is examined. This analysis reinforces the contention that once the open market path from monetary change to demand is taken, the relationship is not well articulated and that the distinction between outside and inside money is of great significance.
II. Definition of Money and Financial Variables

In the econometric money game much ado is made about the proper definition of money: Various distinguished authorities mean quite different things when they say money. Perhaps money really is like corn, and its definition should depend upon local custom and the problem at hand. It seems clear that for purposes of process analysis the appropriate definition of money is that which serves as a means of payment; especially as portfolio transformations and the related payments are part of the process by which an initial monetary change works its way to the arena where it affects demand.

However, even defining money as a means of payment does not lead to an unambiguous money concept. The means of payments used by bankers is not the same as that which households and ordinary business firms use. Each type of 'money' has a specified set of economic units for which it is the means of payment. Only gold coins when they circulated were simultaneously international, bankers and public money; today there are three only slightly overlapping types and changes from one to another can affect system behavior. In particular, the classical bank crisis occurred when holders of one type of money demanded another type.

However, for some purposes, it is quite clear that money is best defined as an outside asset independently of whether it is a means of payment, especially if the concern is with the effect of money in determining the terms upon which particular financial contracts will be accepted.
The full significance of the dichotomy between inside and outside money has been lost in the emphasis upon real balance effects. In addition to whatever different effects these two types of money have upon the public's wealth when the price level changes, inside and outside money differ in the payment commitments by the public to the banking system which exist as a result of how the money was created. With inside money, some private economic units are operating under a constraint to meet payments that were agreed upon at the time the money was brought into being. With outside money no such payment commitments exists.

Contractual payment commitments constrain the debtor unit. The vulnerability of a unit to either a local or general decline in demand increases as the relative size of its contractual obligations increase.

As business investment always implies the taking on of new financial commitments, the investment demand schedule is affected by existing financial commitments. If all circumstances are exactly the same, except for the nature of the money supply, a community with outside money can be expected to invest more than one with inside money. That is a determinant of the realized "investment" is the portfolio make up of the investing units. With a larger relative supply of outside money the typical liability structure is cleaner than if inside money dominates. As a result entrepreneurs feel safer in taking on additional "uncertainties". In addition asset holders have a larger proportion of safe assets—they are willing to take on the risks inherent in financing investments at more favorable terms to the investing unit.
A government deficit leaves behind default free assets whose market value will be independent of the behavior of any component part of the economy. These "independent" and "freedom from default" attributes do not depend upon the term of the security and whether they were introduced into the economy in such a way that an equal amount of "private spending" did not occur. A rise in the government debt is expansionary for it increases the willingness to invest by making households and business firms more secure. The net expansionary effect of the portfolio changes over a period will depend upon the relative rates of growth of government deficit, one condition for steady growth is that the stock of outside money grow fast enough. This implies a permanent or secular deficit—which grows fast enough. Whether outside money must grow more rapidly or whether it can grow less rapidly than productive capacity and inside assets is an empirical question that reflects the portfolio preferences of private economic units. There is no reason to believe that these preferences will necessarily remain constant over time and institutions.

Institutional arrangements blur the line between inside and outside money. An inside money supply with government deposit insurance is at least in a contingent sense outside money. However even though the asset "demand deposits" is protected the debts to the monetary system constrain the units whose liabilities generated the money. Although the nominal value of inside money guaranteed by a government agency is independent of the behavior of the system, it still is not fully equivalent to outside money because "borrowers risk" and constraint upon debtors exist.
In an enterprise economy the distinction between financial and real variables is not at all precise. The line between a tangible asset—such as equity in a house—and a financial asset—such as shares of common stock—is vague if only balance sheets and marketability characteristics enter into the definition. Tangible and financial assets both are valuable because they are expected to generate a stream of returns—sometimes in the form of cash, sometimes in the form of services—and are a transferable store of wealth.\(^5\)

The meaningful distinction between financial and tangible assets is whether their production is a part of income. Some views of the transmission process between an initial financial change and some ultimate increase in aggregate demand depends upon viewing tangible and financial assets as a continuum.\(^6\)

Of course financial variables includes all sorts of lease and contingent contracts. Some of the impact of financial variables upon system behavior depends upon the circumstances which make contingent contracts current.
III. Impact Effects

Impact connotes a forceful impingement, a collision that communicates force. It therefore carries overtones of immediacy, of short reactions. To study impact problems the how, where and when of financial changes must be specified as well as the characteristics of the demand that is to be affected.

An initial financial change may set off a sequence of financial adjustments which depend not only on financial market interrelations but also on feedbacks from non-financial markets. Each element of the sequence will have its own particular effect upon demand: the working out of an initial change may lead to a time series of impacts upon demand. The length of time between an initial financial change and a change in financial variables that are immediately relevant to decisions in a particular market will depend upon the location of the initial financial change. As initiating financial change are always taking place, the long run equilibrium implicit in any current situation is of no interest.

The financial "past" of the economy can be considered as determining a set of initial conditions for "today". As the initial conditions are not equilibrium conditions, even in the absence of any new financial changes during the period, the end of period financial relations will differ from
the initial conditions. However the end of period set of financial variables is the result of not only the reactions to the initial disequilibrium in the financial markets but also of independent, largely but not solely policy determined, changes and the "residue" left by the way in which the periods income was generated.

There really is no need to consider in detail "independent" changes in financial variables. Today these are largely due to central bank action or legislation, however something like a major gold strike could be considered as an independent financial change. In addition the effect that the evolution of financial usages has upon the availability of various types of financial instruments can be considered as an independent financial change. In addition the effect that the evolution of financial usages has upon the availability of various types of financial instruments can also be considered as an independent financial change.

The income generating process leaves behind a financial residue. The ex-post sectoral deficits of the flow of funds data reflect in a set of financial liabilities that, with financial intermediation layering, reflect the way in which the ex-post surplus units financed the ex-post deficit units. If for example over a time period the major ex-post deficit sector is the Federal Government, then the financial residue will take the form of a rise in "outside money". If the major deficit sector is private business then over a time period the assets acquired by surplus units...
directly or by way of financial intermediaries—will reflect private liabilities.

The current concern with fiscal drag is a special case of an inconsistency between ex-ante values that must be resolved in order to achieve a necessary ex-post equality. In a closed economy, the total of the sectoral surplus must equal the total of the sectoral deficits. If for all sectors excluding the Federal Government surpluses exceed deficits and within a considerable range this sum is independent of the level of income, then the Federal Government must run a deficit. Given that the Congress legislates tax and revenue schedules and that the Federal Government's deficit or surplus is a function of income, then income must settle at the level where the Federal Government deficit equals the surplus from the other sectors. To the extent that the above holds, the Federal tax and spending program might as well be set so as to yield the required deficit at full employment. The 'fiscal drag' model also implies that the Federal debt will grow and the longer run implications of the model depend upon the effects that can be expected to flow from the growth of the Government debt.

Over time, the financial structure of the economy will reflect the accumulation of financial residues left behind by the income generating process. That is just as a period's "income" leaves, a set of capital goods to subsequent periods, some of which reflects the investment carried on during the period, so the period's income leaves behind a set of
financial variables, some of which reflect how last periods investment was financed. Oftimes the short period rate of growth of a particular dimension of either capital or financial variables is not sustainable. However as the financial variables are the result of a particular income generating process, the relative saturation of particular "financial" markets feeds back upon and affects future income generating processes.

Let us make the above a bit more precise by drawing upon the California banking studies I mentioned earlier. One factor associated with the rapid growth of the state has been a house building boom. Some 40% of the funds in California real estate mortgages come from out of state. These funds are not only a major source of financing for the home building industry but they also are the source of a major flow of reserves to the California banking system.

One constituent of this flow of funds into California real estate mortgages has been investments by eastern mutual savings banks. Between 1951 and 1960, the amount the mutual savings banks committed to California real estate grew at the rate of 55% per year. This is obviously a non-sustainable rate of growth--at this rate it would not take too many years for these banks investments in California to be greater than their total assets.
The outstanding stock of "Foreign owned" mortgages generate payments from California economy to the rest of the country. As the stock of such liabilities has been growing about twice as fast as the economy, the payment burden due to this debt has increased relative to income. Only the continued flow of out of state investment funds to the state has made the burden feasible: California has been playing a "Ponzi" game with the rest of the country.

The accumulation of residues that are left behind by the financial processes that are associated with the way in which income is generated over a period of time will feedback upon and affect the income generating process in one of two ways. Either the effect is steady and mild, affecting the way in which decisions are made but not generating any rapid, self-stimulating financial changes, or an epidemic which sharply affects assets values take place. (There is a discontinuity between financial stability and instability).

Perhaps the most important impact that financial variables can have upon system behavior are those that result from financial instability. In the evaluating of any financial system the potential for financial instability is one of its most significant attributes.

A third aspect of the accumulation of financial residues is that for a growth process to be an equilibrium process, the "stocks" and "values" of financial variables grow along with income, so that at the end of each "period" all actors are willing to take another appropriately larger
balanced step. However if current financial variables reflect subjective uncertainties about the stability of income, a long period of sustained growth will lead to a rise in the value of assets relative to income by inducing a reduction in these uncertainties. This will tend to induce a somewhat larger than equilibrium step in income or alternatively the desire to increase the size of the step must be offset by some other constraining income and financial change. If the animal spirit released by a successful run lead to growth that unbalances the outside-inside money ratio, the potential for financial instability is increased. 8

The accumulation of financial variables from past incomes can be subsumed under the initial conditions. However as in the California case the evolution of some of these initial conditions may be such as to indicate that the income generating process ruling over this period is not in the longer run sustainable.

We therefore have three financial impacts during any period. One flows from the initial disequilibrium inherited from the past. Inherited balance sheets are not "desired" and units operate to adjust their balance sheets. The second is the result of the current income generating process. Its initial "impact" can be considered as the ex-ante "desire" of various units to emit certain financial liabilities and the "ex-ante" desire of units that run financial surpluses to acquire particular
financial assets. The third impact is due to exogenous changes—the realm of monetary and financial policy. All three impacts can affect variables that are relevant for income decisions.

Fortunately the time series of financial changes that would result if an initial situation is allowed to work itself out can be ignored if the dynamic process is "linear". All of the past, the entire past set of exogenous changes as well as the residues left behind can be summed up into the "initial" conditions. The effects of whatever "new shock" takes place can be added onto the time sequence that would have resulted in the absence of the shock
IV The Dynamics of Adjustment to an Initial Displacement

In one of his characteristic "en passant" flashes of genius, Professor Harry B. Johnson remarked that the General Theory "... attempts to bring markets with widely different speeds of adjustment—the goods market, the money market and the labor market—into one short-period equilibrium analysis". As far as my limited reading of Johnsonia shows, he nowhere spells out what this means. As I see it the Keynesian dynamic specifications are that the goods and labor markets react slowly; in particular they tend to be quantity rather than price reactors, and the money market(s) react quickly and it (they) tends to be a price reactor.

The quickly reacting money market(s) may or may not induce changes in aggregate demand which effectively eliminates the aggregate supply. When Keynes wrote that there were "... several slips between the cup and the lip" with reference to the effectiveness of money in calling the tune for system behavior, the reference was obviously to the conditional nature of the effect of a monetary change. How the reaction of the system to a monetary change depends upon the state of the system and the nature of the monetary change needs to be spelled out. In particular it should be noted how and under what circumstances the complex financial system can work so as to attenuate or to intensify the initial monetary impulse.
In terms of the current controversy in monetary theory, between quantity theorists and Keynesians, the point of departure for this section is that the relevant question is not which view to accept but "... the circumstances under which the one or the other view is likely to be more fruitful." The fact that Friedman and Weiselman found that for the Great Depression period a naive income expenditure model did better than their quantity theory indicates that a model which allows for switching in the mode of operation of the system is superior to any simple view. Of course implicit in what follows is that Keynesian economics, correctly interpreted, incorporates "switching" among reaction paths.

Recently there has been discussion of the lag between monetary and income changes. Although the question still is in doubt, my reading of the evidence indicates that a long and variable lag exists. It seems obvious that the length of the lag between a monetary and an income change depends upon the state of the system and the how and what kind of the monetary changes that take place.

What follows is based upon particular specifications of relative speeds of adjustment and impact points. Ultimately this is an empirical rather than theoretical problem. In a world with evolving institutions there is no reason to expect that the relative reaction times within markets and contacts between markets will always remain the same.
In addition, as the growth and development of market institutions and usages depends upon profit opportunities, the very adjustment path taken by the economy can affect the "how" and the "rate" of future adjustments. Finance affects system behavior in a much more complicated fashion than a simple reading of existence theorems and econometrics equations would lead one to believe.

1. Aggregate Demand

Consider aggregate demand and supply schedules $D_1$ and $S$ which yield an equilibrium at $A$. The schedules can be for either labor or commodities, as it is assumed that these are the markets in which prices move slowly. In the first instance any adjustment to a change (schedule shift) in these markets will be with constant prices.

A decline of demand to $D_2$ will lead to a quantity change. Excess supply of $s$ at $p_0$ will appear, and no significant change in $p$ will occur while this is taking place. The market will not in the first instance move toward $x^{12}$. Certainly in the labor market, where short period transitory unemployment is not rare, a fall in labor demand will not lead to an immediate decline in wages. Wage stability is reinforced for those economies where the first step in the process by which unemployment increases is a decrease in the hiring rate. In these economies, in the
first instance, employment decreases as a result of attrition. Unemployment increases because new entrants to the labor market find it more difficult to get jobs.

**DIAGRAM I**

This shift in the aggregate demand schedule occurs in an enterprise economy with a mixed (inside and outside) money supply, a banking system with an unimpaired--perhaps even augmented--capacity to acquire earning assets and a demand schedule for bank accommodation that is related to output. The shift in the aggregate demand schedule and the decline in output will be associated with a fall in the demand schedule for bank accommodations.

The shift in the demand schedule for bank accommodations may be an initiating factor in the shift of the aggregate demand schedule or it may be a consequence of the shift. On the basis of constrained, intertemporal income generating systems an intermittent downward shift of those demands sensitive to the overall rate of growth of the economy is not difficult ot explain. This may very well take the form of a decline in demand for external financing, in particular for bank financing. Under these conditions the initial downward shift of the aggregate demand function is based upon an assumed constancy of interest rates. It may very well be a "virtual" shift as the other things assumed to be constant will not in fact remain unchanged. On the other hand, if for any reason whatsoever aggregate demand goes down, the decrease in the value of goods in process of being produced will lead to a decline in the demand for bank accommodations.
Assume aggregate demand has fallen and that market processes operate so that wages and prices remain constant (move slowly) in the face of excess supply while interest rates move rapidly. The rapidly falling interest rates and the associated increased availability of "credit" tend to shift the aggregate demand curve upward. How great an original shift in demand can be offset by financial market changes in a given time period? The answer depends upon the nature of the underlying demand relations and how the financial market reactions occur.

DIAGRAM II

In the Hicksian IS-LM diagram, (Diagram II), if $IS_1$ shifts to $IS_2$ then what happens to $r$ and $y$ depends upon the elasticity of the LM curve. If LM is infinitely elastic $r$ does not change, if LM has zero elasticity $y$ does not change and if LM is as conventionally drawn both $r$ and $y$ change. What we are doing is trying to put some institutional meat on this IS-LM skeleton.

We can posit that with a given monetary system—including how money is fed into the economy as part of the monetary system—there is a maximum to the decline in demand that can be overcome by purely monetary means within a period in which wages and prices remain essentially fixed. A special Keynesian view—modified by real balance effect arguments—is that wage and price level flexibility is an inefficient way to achieve aggregate equilibrium. But our domain of concern stops short of the wage
and price flexibility path to increasing aggregate demand. We are really concerned with whether the return to equilibrium in the labor and commodity markets can be achieved by a more restricted set of monetary means than those that include whatever monetary forces are brought into play by price flexibility.

Note that the "Keynesian" policy position with regard to government spending is designed to shift the aggregate demand curve $D_2$ to a position where a permissive monetary mechanism can return the system to equilibrium. Thus Keynesian fiscal policy is not a substitute for monetary policy—it can, if you wish, be considered as a way of making money effective when the link between money and demand has been attenuated.

2. Bank Behavior.

In the face of this decline in demand for their output banks will try to remain fully invested. To do this they "sweeten" accommodation terms and purchase inherited eligible paper from the open market. Both the sweetening of accommodation terms and the purchase of open market paper are subsumed in a fall in the interest rate. That is, in the time horizon being considered, bankers are quantity—maintainers and price adjusters whereas both labor and commodity sellers adjust quantity and maintain price.

Two modes of operation of the banking system can be distinguished. One will be labeled "commercial loan" and the other "open market" banking. However both terms are not identical with their common usage. In the
first place "commercial banks" can engage in open market operations, when they purchase treasury bills during a period of slack loan demand. Central banks can engage in commercial loan operations, as when they rediscout, purchase bankers acceptances or purchase newly issued government debt from the treasury. The distinction between the two really is between their impact, whether the monetary change initially modifies portfolios or finances demand. Open market operations, in the first instance, modify portfolios; commercial loan operations, in the first instance, finance operations.

One way of distinguishing between the two ways that bank money is created is by the past of the asset acquired by the banking system. If the asset existed prior to the banks purchase, then it is an open market operation. If it is created "de nova" in the process of the banks operations, then it is a commercial loan operation.

In real life the line between open market and commercial loan operations may be even fuzzier than they are in principal. The use of the proceeds of a sale of pre-existing assets to finance operations may be what looks like an open market operation into a commercial loan operation. In a world with a complex financial structure portfolio adjustments may often be the way in which idle cash is activated. In particular bank and financial institution sale of seasoned (and endorsed) earning assets may be a way to mobilize funds to finance new expenditures. In part, once the scope of open market operations is expanded to include commercial
bank operations, the traditionally expansionary operation (purchases) may be associated with contractions and the traditionally contractionary operation (sales) may be associated with expansions.

In addition to bank creation of money, money may be "mined", earned by the foreign balance, or printed by the government. Each of these ways of increasing the money supply can be considered, depending upon the surrounding circumstances, as having similarities with either commercial loan or of open market creation of money by commercial banks.

For example a debt financed government deficit, independently of whether it is financed by "new money" or by "activating" idle money, has the same impact as a "commercial loan". Of course if the debt emitted is fully competitive with private debt, so that the public deficit in full or in part is offset by a reduction in private deficits, then it would not have a net impact equal to the size of the deficit. The impact of a government deficit depends upon the way the debt is managed.

An increase of the money supply that is due to the mining of gold and an export surplus is also a "commercial loan" increase in money.

In addition to the linkage between money increase and income, which makes a government deficit and gold mining equivalent to a commercial loan, the government deficit and other produced money are outside money. The repercussions of the mix of outside and inside money upon system behavior will be considered later.
Note that "commercial loan" banking as used here has nothing to do with any rule for the determination of the "correct" amount of money.

3. Commercial Loan Banking.

If banks remain fully invested by maintaining the volume of their demand related accommodations, then the effect upon the volume of bank earning assets of a shift in the demand for private accommodations from $A_1$ to $A_2$ (Diagram III) will be offset by a decline in the demand for $r$. To the extent that the decline in demand for private accommodations is the initiative factor in the decline in private demand, the movement down $A_2$ will lead to an upward shift of the aggregate demand schedule $D_2$. Even if the shift in the demand for private accommodations is due to an independent shift in demand, the movement of $r$ to maintain the volume of accommodations will offset part of the decline in demand, and if the banks ability to lend is great enough, the offset can be complete.

DIAGRAM III

If interest rates fall fast enough and far enough, the movement along $A_2$ (Diagram III) will shift $D_2$ back to $D_1$ (Diagram I). Of course for this always to be true, all interest rates (including if need be negative interest rates) must be possible and in addition, with low enough interest rates, the level of accommodations and the level of associated output demand will exceed any pre-assigned amount.

The above is a commercial loan view of banking. The proceeds of bank loans are spent on output and bank loans are associated with a net increase in financial paper. In such a world--no portfolio alternatives
and borrowers who spend—the only price that needs to adjust is the interest rate and the quantity of bank accommodations available. The transmission line is that the creation of money makes "demand" effective—its impact is that it finances planned expenditures.

In the commercial loan view of banking, the relation between the money supply and the financing of operations is very close. If at the "beginning" of a period OB of money is destroyed as the borrowers repay bank debt. Then at the end of the period OB of money is destroyed as the borrowers

Diagram III can be interpreted in either a static or a dynamic context: OB may be the amount of investment in excess of ex-ante saving (saving based upon "last periods income") that is needed if the economy is to remain on a designated growth path. If OB of new money can be fed into the system so that it financed an equal increase in demand, then all that is necessary in the way of policy is to have the money supply grow at the "proper rate". If portfolio money is a simple known relation to transactions money then once again growth at a proper rate of money balances will do the job but in this case the idle money may have to be fed into the system by open market operations.
The $A_1$ and $A_2$ schedules can be interpreted as relating to the productivity—implicitly we are assuming that thrift is independent of interest rates—of the "productivity and thrift" pair that determines interest rates. If money is fed into the system to finance investment plans, then under the assumption made above, a shift in the productivity of investment with no change in thrift or the supply of money will in the first instance only affect interest rates.

In the above "commercial loan" view a decline of interest rates is associated with the impact of money upon demand. Earlier we had identified gold mining and an export surplus as being similar to a "commercial loan" increase in money. However a decline in interest rates is not part of the mechanism by which they affect demand. The very process of mining gold or producing for export generates income. What happens to interest rates depends upon the increased money supply and the rise in income due to the production of money interact in generating demand and supply of finance. The income due to the production of the money commodity is a particular high powered type of investment as far as the Keynesian model is concerned.

Of course not all of external finance is by way of bank credit; many units emit liabilities which are not bank eligible. Whether monetary changes, operating through a banking system that remains fully invested, but not necessarily fully loaned up, will impinge upon such financing depends upon the path from "fully invested" banks to these other financial markets.
4. Open Market Banking.

A banking system that remains fully invested in the face of a decline in the demand for accommodations may do so by purchasing existing earning assets from the market. For this to take place a sufficiently large stock of bank eligible earning assets must exist. (Of course the definition of what is bank eligible need not remain unchanged over time). The seller of the asset to banks exchanges an earning asset for money; his portfolio is altered. There is no direct link between money creation and spending.

At any normal time there are households and business firms who are seeking to get out of temporary abodes of purchasing power into money in order to effect some purchase or fulfill some commitment. At the same time other units are trying to place cash into such temporary abodes. Much of the action that characterizes the markets for non-monetary liquid assets is due to the association of these markets with payments related to financial rather than income transactions. When banks move into--or out of--these markets, either to be fully loaned up or to acquire funds to satisfy customer loan demand, they affect the price of these assets, i.e. interest rates are either raised or lowered.

The supply of those financial instruments which usually serve as temporary abodes of purchasing power is not, in the short period, responsive to demand. In fact their behavior may be "perverse", the supply of near money marketable assets may decrease as a result of the same
income generating factors which led to a decline in the demand for bank accomodation. As a result some units will have to choose between holding money and holding assets that are not conventionally accepted as temporary abodes of purchasing power.

The maintenance of the money supply by means of open market operations can mean no more than the substitution of money for the closest of substitutes for money in the portfolio's of a particular group of households and business firms. The open market path may lead to no short term impact upon demand. On the other hand, as the money supply is maintained or increased by open market operations, the price of bank eligible securities rises. Inasmuch as the preferred money substitutes are short term, even a substantial decline in interest rates will not yield any substantial capital gains. However once short term interest rates to "preferred" borrowers falls below the running yield on longer term securities, the possibility of making on the carry will induce position taking in longer term securities. A decline in interest rates throughout the economy may follow even though such position taking on the basis of short-long rate differentials is in part dependent upon the existence of adequate refinancing opportunities. The easing of longer term market rates can lead to a rise in the value of some tangible sources of income or services, if the nominal returns or the price of the services do not change.
The rise of the market value of existing tangible assets, with unchanging labor and commodity prices, tends to lead to a substitution of "newly produced" for "second hand" capital goods. Such a shift of the demand for investment at a particular price and wage level will shift both the demand for accommodations and the aggregate demand schedule upward. A process which in principle can lead to the return of $D_2$ to $D_1$ may be set into motion by open market operations.

This rise in the market value of second hand tangible assets relative to their production costs depends upon a pervasive cozing of the money generated by open market operations to other markets. In the case of the substitution of money for temporary repositories of purchasing power, for the demand to respond as indicated, an appreciable proportion of managers of portfolios will have to reach for yield with funds that as risk averters they held in short term assets under the previous relative yield relationships. The question is whether yield differentials can be quickly decreased by enough to generate a significant shift to longer term securities. This at best can be viewed as a highly temulous process; a large part of the money created by such open market actions will remain in idle balances.

The maintenance or increase of the money supply by means of open market operations will nevertheless effect aggregate demand, if or when the demand for accommodation schedule shifts upward. In Diagram IV if, during a period, B-B of earning assets can be acquired by the banking
system, and if the banking system can acquire an unlimited amount of
pre-existing, eligible paper from the market, then with accomodations
demand $\lambda_2$, $OB_1$ of accomodations and $B_1$ of open market asset acquisi-
tion will take place. An autonomous shift of the demand for accomoda-
tions schedule from $\lambda_2$ to $\lambda_1$ will enable the banking system to acquire
$OB'$ ($OB=OB_1+B_1B$) of earning assets during the "period" as the assets
acquired in open market operations are sold back to the public where
they function as "temporary" abodes of purchasing power.

The overshooting possibility inherent in such portfolio changes
is evident, and the existence of a complex financial structure enhances
both the attenuation and the over overshoot possibilities. It also
indicates that the expansionary effect of bank operations during any
short period depends upon portfolio changes by banks as well as the
net change in bank liabilities. If $OB$ represents the per period increase
in the money supply, then even a steady increase in the money supply
combined with a large stock of eligible open market paper and a shift-
ing demand for accomodations schedule can lead to short run variability
in effect of banks upon the system.

DIAGRAM IV

However open market operations, broadly conceived need not be
restricted to short term securities. The issue is broader than the
"Bills Only" doctrine of the Federal Reserve System, once the term
open market operations is extended to include all banking system deal-
ings in existing securities.
Commercial banks are conglomerate financial institutions which not only have the payment means, demand deposits, as their liability but they also have various savings or time deposit liabilities. As a result of their savings intermediary role, banks hold longer term securities, especially mortgages. In the mortgage market "action" centers not only around the financing of new construction but in the refinancing of existing houses. Commercial banks action in the mortgage market therefore is a mixture of "commercial loan" and "open market" operations. To the extent that a decline in business loan demand or other aspects of an easing in credit conditions leads to an increase in Commercial bank activity in mortgage markets, these will be a direct impact upon longer term interest rates—the oozing from short to longs by way of many markets will not need to carry all of the burden.

Banks compete actively with other investors in home mortgages. To the extent that the commitments by banks to mortgages increases when other demand for bank accommodation decrease, non-bank intermediary funds which normally would look to the mortgage market for placement, will, under the new relative rates of return, seek other outlets.

Although the permeation of open market operations to all market rates is not as ephemeral when open market operations in long securities are considered, nevertheless the choice between remaining liquid and reaching for yield will always exist. With the lower rate pattern that will emerge, under open market maintenance or expansion of the money supply the impact will almost always be attenuated.
In addition the shifting proportions of placements into longs as well as the pockets of idle cash, that accompany the decline in interest rates, will lead to a possibility of an amplified reaction to any independent demand stimulus. The open market path between money and activity is slippery and mucky.

Of course open market operations as discussed here have nothing to do with the determination of the amount of earning assets the banking system can acquire.

5. Excess Reserves.

A third path open to banks generates excess reserves. A shift of the demand for accommodations schedule downward and a low yield on eligible paper will induce some banks not to follow the market down but to settle for an easy life. Of course excess reserves are in the longer run a transitory phenomena, but in the short period they constitute another slippage between money and aggregate demand.

The accumulation of excess reserves in the banking system may induce some banks to reach for yield. Inasmuch as money men do not like capital losses their reaching for yield will depend upon their ability to treat the speculation as an investment if the need arises. That is they will reach for yield only if the volume of excess reserves and short term assets they hold is sufficiently large so that over a period in which the 'longs' will mature into shorts they can satisfy any normal rise in customers' demand for accommodations without being forced to sell their positions in 'longs'. That is a rise in excess reserves and an accumulation of a large volume of short term securities is a necessary condition for
for bank behavior directly to affect the interest rate on marketable longer term investments.

It is evident from the above that how money is fed into the system by the banking system is of importance in determining the effect of a monetary change. If money is introduced to finance expenditure decisions, then the link between money and income is direct. If money enters as a portfolio transformation, in which money is substituted for another asset, then the linkage is vague—and the impact upon demand may occur with a considerable lag.
V. The Demand and Supply of Accomodations

The demand for accomodations, introduced in the preceding section, requires further analysis. Although the diagram is drawn as if there is only one type of "accomodation", in the discussion it is clear that there are many. It is necessary to disaggregate.

Even though financial liabilities are emitted to finance the acquisition of financial and second hand tangible assets and the layering through financial intermediaries absorbs and distributes risks and thus is a determinant of realized investment, it seems best to initially ignore such layering. Let us assume that liabilities are emitted solely to acquire goods and services which are part of current income; our concern is with net financial deficits and surpluses.

The demand and supply schedules for accomodations yield ex-ante sectoral financial surpluses or deficits. The demand schedules for net accomodations are derived from tangible investment opportunities. The supply schedules of accomodations are based upon portfolio preferences. The demand for and supply of accomodations schedules that rule at any time depend upon institutional limitations and are constrained by market failures.

All positions, including those taken by business firms in capital goods, are portfolios. The investment process can be interpreted as flowing from a disequilibrium asset and liability structure. Units desire
to acquire some tangible assets and "emit" particular financial liabilities in order to move to a "better" position. Technical progress, relative prices and the past of the economy as well as financial variables determine not only the desired position in tangible assets but also the pace at which it will be approached. Presumably monetary policy actions generate a desired disequilibrium. Investment may very well be a donkey-carrot phenomena—and it is the role of policy to see to it that the donkey does not catch the carrot.

A real investment decision is based upon a simultaneous analysis of the expected value of the tangible asset to be acquired and the terms upon which it can be financed. Although the chicken and the egg are different, it is not important which comes first. We will first look at the investment decision sans finance and then take up finance. Both sets of decisions are dependent upon how risks are evaluated.

Portfolio preferences of units with "poor" own investment opportunities will determine the net supply of accommodations. For these units their existing portfolio of financial assets and the cash surplus currently generated yield a supply schedule of accommodation. The terms upon which particular assets will be acquired in exchange for accumulating cash depends upon the initial portfolio conditions as well as the expected returns.

Thus the initial portfolio conditions of private deficit and surplus sectors (or units) are proximate determinants of realized ex-post investment. In particular, the safety and security of the initial asset
structure of surplus units is a determinant of the rate at which the various liabilities emitted by deficit units will be absorbed.

In this section we will first examine the basic determinants of investment demand. This discussion will in part be looking back to the material of section IV; as we will be asking under what conditions can the open market oozing phenomena work to increase "realized" investment. This will be followed by a discussion of the effect of the liability structure of investing units. The willingness to absorb private financial assets by surplus units is next discussed. The effect that non-bank financial intermediaries and banks have upon the process will be taken up in the final section.

I. Investment Demand.

Investment is what occurs when the capital stock is changed. The "initial" capital stock is not the desired capital stock, and for the continued normal functioning of an enterprise system it is necessary to make sure that the actual capital stock is never equal to or greater than the desired stock. The function of policy is to rig the game.

Open market operations can lower specified interest rates. For this to call the tune for aggregate demand, decreases in the market rates directly and indirectly affected by traditional open market operations must spill over to raise the value of tangible assets and of the liabilities to finance their purchase.
For lower market interest rates to raise the aggregate demand schedule the value of existing capital must be increased; the price of "second hand" capital must rise relative to the construction costs of new capital. With unchanged construction costs and an unchanged expected stream of returns, a lower discount rate will change the ratio of the value of existing capital to the cost of new capital.

The value of existing tangible capital is not determined by discounting the value of future services at default free interest rates. The discount rate applicable to real capital is much higher, due to various risks which are inherent in inside capital. The risk premiums applicable to any particular tangible asset are due to uncertainties about the future of the economy, the particular market and the firm. The "expected" behavior of these three elements of uncertainties are not necessarily independent. For a decline in the default free rate to mean a rise in the present value of capital, the risk premiums cannot be inversely related to the default free rate.

Those risks that are classified as being due to the behavior of the economy can be imputed to cyclical instability. During the post war period the premiums of government securities over higher grade private debt and of higher grade private debt over lower grade private debt decreased. These changes reflect the dependence of market risk premiums upon an extrapolation of the past of the economy.
If private investments are made assuming that no depression will occur, the desired capital-income ratio will be higher than if the assumption is that depressions will occur. Thus successful contra-cyclical policy can uncover a large potential for capital deepening—which in turn will sustain investment demand. Successful economic policy generates external benefits such as this capital deepening. The external benefits flowing from successful policy can be considered as a low cost substitute for insurance policies that risk averters would gladly buy but which no private organization will supply.

Market risks are due to the behavior of the market in which the output produced by the capital goods will be sold. These may very well be correlated with cyclical risks—although they are in part independent. Risks due to the "competence and capabilities" of the firms management may be considered independent of the cyclical behavior of the economy, although the past sins of management often come to light during "hard times". There is nothing like general prosperity to paper over the consequences of incompetence.

Using a stream of returns in perpetuity for our example, the present value of a constant stream of returns of $R per year is $V = \frac{\omega R}{r_1 + r_2 + r_3 + r_4}$

where $r_1$ is the default free interest rate, $r_2$, $r_3$, and $r_4$ are the discount premiums due to economy, market and firm risks. If the expected stream of returns is to grow at $g\%$ per year, then with $R$ as the next return the present value of this perpetuity is $V_g = \frac{\omega R}{r_1 + r_2 + r_3 + r_4 - g}$.
Let us return to our initial situation: The aggregate demand schedule falls from \( D_1 \) to \( D_2 \), the price of output and of capital goods do not decline, interest rates on "open market" paper falls as banks and other try to remain fully "invested". Presumably in time \( r_1 \), the rate on a default free perpetuity declines. Ignoring \( r_3 \) and \( r_4 \), for the decline in \( r_1 \) to certainly raise \( \delta R \) or \( \delta g \), \( r_2 \) must not rise and \( \delta R \) and \( g \) must not fall.

For \( r_2 \) not to rise and \( g \) not to fall, the decline in demand must have been anticipated and discounted. That is the decline in aggregate demand is a normal occurrence which is fully expected. In addition the estimate of \( g \) assumes cyclical growth. The economy views a cyclical growth pattern as the norm, and the observed decline in income fall within the range of a normal decline. Thus there is a maximum to the decline in demand which will not induce a further decline in the demand for accommodations due to a decline in capital values involved by the decline in income.

A decline in income must mean a decline in "profits": Hence the current and near \( R \)'s must be lower than the expected normal or permanent value. If the combined discount rate \( r_1 + r_2 + r_3 + r_4 - g \) is large, then the current and near returns weigh heavily in determining present value.

Investment started this period has a gestation period. There is a lag between the start and the capacity coming on stream. For such investments the near term \( R \)'s are zero, hence the cyclical stage is no real determinant of these investment decisions.
Open market operations would be effective in raising aggregate demand in a mild recession if investments such as described above are a large part of total capital formation. The demand for accomodations schedule which would result from such investments is elastic with respect to market interest rates and stable with respect to normal cyclical variation in income. In addition as we are dealing with the demand for external financing, the investments must be those which are normally financed by emitting liabilities.

In an economy where income growth is expected, utility and housing investments conform to the specifications discussed above, although both would be quite sensitive to a more than normal decline in income or a retardation in the growth rate. Inasmuch as the linkage between money and capital market conditions and the financing of mortgages was quite clear in the early post World War II period, it is not surprising that housing led in the upswings.

On the other hand if a larger than normal decline in income, or a retardation in the expected growth rate occurs, the rise in \( r_2 \) or the decline in \( g \) will offset declines in \( r_1 \). Open market operations will not effectively expand demand, even if the appropriate financing terms are affected if it is necessary to offset the effect of a more than normal decline in demand.

Note that open market operations will not necessarily increase the demand for outputs with short gestation periods for the decline in the near period \( R \)'s will offset the decline in \( r_1 \). However if there is a large
enough sector which will react to lower financing terms by increasing its investment activity, income need not fall appreciably. With maintained income, even investments with short gestation periods and relatively long life might be desirable.

Open market operations may work, and then again they may not. They are a weak reed upon which to base policy, especially as its effectiveness depends upon demand being close to capacity demand.
2. Liability Structure.

Corporate finance is one starting place for monetary economics. A decision to invest is simultaneously a decision to spend; and the spending can be financed by some combination of cash generated by operations, sale of assets or sale of liabilities. A financial plan is as important to a firm as a facilities plan. Each economic unit is limited in the liabilities it can emit, and willingness to pay premiums often does not serve to broaden the range of liabilities a unit can emit.

For a risk averting business firm there exists a hierarchy of liability structures. A liability structure with only equity liabilities is less risky than one with debt instruments—in particular a firm without debt can survive adverse circumstances that would put a firm with debt into bankruptcy. On the other hand, the gains from leverage can induce risk taking—and the liability structure is a result of the "balancing of forces" and interpretation of evidence phenomena.

The vulnerability of a firm to adverse market developments can be illustrated by means of conventional cost curve diagrams.

**Diagram V**

Total cost curve $TC_1$ is the out of pocket costs and $AC_1$ is the associated average cost curve. $AA$ is the per period gross payment commitment due to debt financing, $AC_2$ is the equivalent average cost curve. $AA$ is the gross per period returns on the capital invested that are in some
sense "normal". $AC_3$ is the associated average cost curve. The investment in the firm is based upon an expectation of output $q_3$ being sold at price $p_3$.

If price is maintained in the face of a fall in demand, then the firm with no debt can, on a cash flow basis, sustain a fall of output to $q_1$--on a maintenance of capital intact basis a fall of output to $q_1'$ can be sustained. For a firm with debt as illustrated a fall in output below $q_2$ would result in a default on financial commitments or forced borrowing. The probability of difficulty at a given shortfall in output depends upon the financial following:

The complete investment decision involves estimates of both the profitability of the investment and the likelihood that at some date the cash flow from operations will fall short if the requirements imposed by the financial obligations. The willingness to undertake a particular investment--financing combination depends in part upon estimates of the future stability of the economy. In general units will be more willing to undertake investments if it can be financed by retaining earnings than if it requires external financing. Nevertheless the reluctance to use external-debt financing depends upon estimates of the future-and expectational relations seem to conform to learning models.

Both the evaluation of the value of an investment and the willingness to external finance are related to the estimate of economy wide uncertainties. The result is that events that tend to decrease economy
wise uncertainty, such as a prolonged period of steady growth, can lead to an investment boom and an increase in positions that are sensitive to income declines.

A rise in the value of additional capital to some set of firms will lead to a willingness to emit some particular set of liabilities. However, each firm is a monopsonist in its own liabilities—a rise in the ratio of external financing will lead to higher borrowing rates. In addition to this objective phenomena, a rise in the ratio of external financing to income will lead to a rise in the subjective probability that financial difficulties will arise. Of course this subjective estimate of probability of difficulties does not depend solely upon the leverage factor, it may very well be that a run of successful periods will change the estimate of future cash flows.

Be that as it may, at any time firms display a willingness to emit specified type of liabilities at given terms, the liability structure they are willing to assume entails the firm carrying specified risks. Even if other financing instruments are available at apparently more favorable terms, a management may not of its own will accept them—only necessity can lead to such choices and then the "undesired" liability structure can affect future behavior.

A "for example" might help make the above more precise. A firm undertakes an investment commitment where the construction has say a two year gestation period. The financing plan includes cash flows from
operations and the sale of properties. During the first year the cash flow from operations falls short of what had been expected and the firm makes up the difference by bank borrowing. The liability structure is now different from the plan. The firm's management has a number of alternatives but one constraint upon and of first year planning will be to develop a program that promises to eliminate the undesired or unplanned bank debt. This constraint will affect the next year's investment.

Financing long position by short term liabilities is a very dangerous way to live unless guaranteed refinancing exists. If all units were guaranteed accommodations at some "discount window" no unit would pay a premium over a short term rate. In fact such guaranteed accommodations does not exist; thus to constrain "borrowers" risk the payment due to acceptable financial liabilities are related to the expected cash flow from operations.

These constraints upon the willingness to emit particular types of liabilities decreases the likelihood that monetary policy is an efficient way to call the tune. For a rise in capital value, due to interest rate decreases, to affect units, which can finance investment by emitting only certain specified types of liabilities, it is necessary that the rate on these particular liabilities decreases. The contact between the particular financial market and the money market may be weak.
In addition, the improvement in the terms upon which external financing is available may have to offset the effect upon the desirability of undertaking a specific project of decline in cash flows—where the decline in cash flows has little or nothing to do with the expected cash flows from the operation but is a constraint upon how the undertaking can be financed.

3. The Supply of Accomodations.

Let us consider the I-S and L-M curves in the light of the above discussion of investment and its financing. The I-S curve combines Investment as a function of the rate of interest and Savings as a function of the level of income. However a financing decision is an integral part of any investment. Not wishing to open a discussion of the financial determinants of savings, we will assume that the savings function is independent of the asset that will be acquired by the saving unit,

The liquidity preference relation—or rather the L-M transform of the liquidity preference relation—is a portfolio balance relation. Implicitly the relation states the willingness of wealth owners to absorb the liabilities that will be used to finance investment. Each point on the L-M curve states that at that particular interest rate liabilities, associated with the financing of the investment underlying the income level, will be absorbed into portfolios.
In a simple aggregated world it can be assumed that private investment results in the emission of a particular type of bond. The LM curve states that at each interest rate and income level (each income level means a rise in net work as given by the Savings function), the bonds needed to finance the required investment will be absorbed. In a world with complex liability alternatives, the generalized LM curve states how much of each type of financial instrument will be absorbed into portfolios.

Export the liabilities omitted are absorbed. This is so because income and relative yields adjust so that not necessarily consistent ex-ante relations yield the consistent ex-post results.

The LM curve relation states the willingness to absorb the risks carried by a set of private financial liabilities. As conventionally drawn the LM curve shifts with the quantity of money. What kind of money—inside or outside—is relevant to the LM curve?

On the above interpretation a case can be made for "money" to be outside money. Even though central banking there can be some element of outside money in inside money, they are not identical. The inside bank assets do imply cash payments to the banks by some private units: Outside bank assets imposes no such constraints upon private units.

If we assume that the willingness to take risks depends upon the initial position, and if we assume that outside money is free of some uncertainty that inside money carries, then the greater the proportion of outside assets in portfolios the "lower" the LM curve.
In Diagram VI, \( L_{t2} \) reflects a larger amount of outside money than \( L_{t1} \); as a result financing terms are improved. In particular terms are so favorable that investing units are induced to emit those liabilities needed to finance the larger amount of investment necessary to generate \( Y_2 \). Both the asset acquiring and the asset emitting unit will take on more risks with the greater quantity of outside money than they would with the smaller amount.

Note that with \( L_{t2} \) realized saving and investment are greater than with \( L_{t1} \). This reflects what can be interpreted as a rise in productivity. This has taken place because the rise in security, due to the larger stock of outside money, has lowered the implicit insurance premiums that are contained in the gross returns on investment.

In order to continue to generate the favorable supply conditions for private investment, part of the rise in net worth must take the form of a rise in outside assets. If no such increase takes place, over time the LM curve can be expected to swing up and the the left as the arrow in Diagram VI indicates.

1. **Bank and Non-Bank Financial Intermediaries.**

In the standard presentation a change in the conventionally defined money supply shifts the LM curve. The assumed process is almost always an open market chain that runs from an initial substitution of money for outstanding assets to an improvement in the terms upon which new
investment can be financed. If this oozing chain does not increase willingness of units acquire the liabilities that can be emitted by potential investing units, no rise in investment need take place: Thus a rise in conventionally defined money need not shift the LM curve.

Banks and other financial intermediaries are risk absorbers. Whether this risk absorption takes place because of their professional skill in portfolio management, the workings of the law of large numbers of the implicit (explicit) underwriting of their liabilities by government agencies need not concern us. Even though banks and other financial intermediaries do not decrease the risks borne by liability emitters, they decrease the risk carried by the asset holder. Thus with a given net worth and stock of outside money, the greater the amount of risk absorbing intermediation, the more favorable the financing terms for new investment. In this way a rise in the amount of conventionally defined money will increase the willingness of units to absorb new liabilities emitted by investing units. In Diagram VI, \( L^M_2 \) can be interpreted as reflecting a greater absorption of lenders risks by financial intermediaries than \( L^M_1 \), both \( L^M_1 \) and \( L^M_2 \) in this case reflect the same amount of outside money and net worth.

Obviously the ability of banks and other financial intermediaries absorb risks depend upon the assets acquired. If "open market" operations are carried out in Treasury bills and similar instruments, then very little if any "risk" exists for the banks to absorb—the LM curve will shift out very little if at all with a rise in conventionally defined money.
by this path. If private business or household debt is acquired, then a relatively large amount of risk is absorbed, the LM curve will shift a relatively large amount. This is another "explanation" of the relative efficiency of commercial loan operations as against open market operations; it is not a substitute but rather a complement to the earlier argument.

Of all the financial intermediaries, traditionally commercial banks have had the most powerful risk absorbing effects. Thus a given amount of nominal money will shift the LM curve more than an equal amount of the liability of other financial intermediary. It may be because time deposits, even though they are not means of payment, benefits from the risk absorption properties of commercial banks that definitions of money which includes such time deposits work well in some empirical investigations.

Note that the introduction of a new "type" of financial intermediary, or the making of the implicit government underwriting of financial intermediaries explicit (having the automatic F.D.I.C. replace the discretionary Federal Reserve System) will swing the LM curve down and to the right. Vigorous financial innovation may be a substitute for a rapid growth in outside money in sustaining the supply of financing and thus aggregate demand.

It must be borne in mind that the risk that is related to finance is not the risk that can be measured by frequency distribution of past behavior—it is the subjective evaluation of the risk inherent
in the situation that counts. Thus "skimmed milk oft masquerades as cream" and the risk absorption affected by financial intermediaries during a "new era" may only exist in the eyes of the beholder.
VI. Conclusion

The impact of money and financial variables upon aggregate demand is conditioned by the nature of the monetary or financial variables that change and the state of the economy as measured both by the ratio of income to capacity and by its past. The impact of money that is introduced into the system either to finance, or as a result of, an income generating operation is different from that of money that is introduced as a "portfolio change".

Inside and outside money are in part similar because banks and other financial institutions are risk absorbers. Financial institutions and instruments differ in the extent to which they diminish lenders risk. Banks are somewhat special in that they seem to absorb more of the risk—and hence time deposits at commercial banks can seem to be like money.

Inherent in any subjective evaluation of risks and of the absorptive powers of financial institutions is the possibility of overshoots due to waves of optimism and pessimism. As we tend to learn from the past and as horizons are short, a run of success or failure, will feedback quickly into the evaluation of risks.

For example, a run of success will release the animal spirits of entrepreneurs and property owners, will raise capital values and net worth relative to conventional income, and will act to increase investment. When modern capitalism takes off in this fashion, governments run
surpluses and the stock of outside money is decreased. Even as the
success of the system induces feelings of safety and security, making
both borrowers and lenders willing to take greater chances; one of the
objective determinants of the security and safety is being eroded; the
quality of the insurance protection deteriorates.

Even though a balanced growth path on which outside money grows at
the same rate as the system can be defined, as long as investment depends
upon the evaluation of risks and risks are determined in part by the past
of the system such a path is unstable. For if success decreases risk
premiums, this lowers the required quantity of outside money. Thus a
change in the government's tax and spending schedules is needed.

The best we can hope for is not a rule but an awareness of how
complex the task that faces any authority possessing discretion.
1. State and local governments are best considered as private economic units.

2. Investment financed by retaining earnings involves a financial commitment by the investing firm. However this commitment being contingent is much less restrictive than the contractual payment commitments of other financing instruments.


4. If we combine $100\%$ money, a required rate of growth of the money stock and an aversion to gold we get as target federal deficit which is equal to the required rate of growth times the existing money stock.

5. Human wealth not being in fact saleable is clearly not a financial asset.

6. Phillip Cagan has defined the effect of open market operations as lowering "... rates of return across the board. The decline in rates thus spreads to all financial and physical assets, so that an increase in the money stock may eventually stimulate investment spending in many dimensions." Phillip Cagan in "A Commentary on Some Current Issues in the Theory of Monetary Policy", in Patterns of Market Behavior, Essays in Honor of Philip Taft, edited by M.H. Brennan, Brown University Press, Providence, Rhode Island, 1965, p. 135.

7. Refinancing possibilities make it possible to have radical changes in the stock of outstanding financial instruments whereas the stock of existing capital can change out relatively slowly. (A financial crisis generates a massive, forced refinancing).


10. "If however we are tempted to assert that money is the drink that stimulates the system to activity, we must remind ourselves that there may be several slips between the cup and the lip.", J.M. Keynes, The General Theory of Employment Interest and Money, New York, 1936, p. 173.


13. If we assume banks and financial institutions only sell endorsed paper, then it becomes clear that this open market sale is really part of a commercial loan operation--the total of bank liabilities, primary and contingent--increases as a result of these penal transactions.


16. In the theory of economic development, "economy" risks can be related to political stability. For a developed economy, we can ignore the risks due to political stability--although firm prospects may often be related to policy decisions.

17. R.M. Goodwin in "The Non-Linear Accelerator and the Persistence of Business Cycles", Econometrics, January, 1951, has the accelerator turn down when income is at the ceiling. If anything can be expected to happen at the ceiling it is that the inducement to invest becomes more powerful. Realized investment may decline as a ratio to the change in income but that is ex-post not ex-ante and depends upon market processes.