by old theory. In a historical discipline such as economics such anomalies, from the perspective of an existing dominant theory, may occur as history unfolds. Changes in economic theory may be expected to occur in response to events in history which are anomalies from the perspective of an accepted theory. In economics new theory is less likely to develop as a result of research within "normal theory" than in the physical and biological sciences, and new theory in economics will come about as a response to striking events which cannot be explained within existing theory.

Economics will be a useful and an exciting discipline as its theorizing responds to and stays in touch with history. This implies that there are limitations in how abstract economic theory can be: economics must stay in touch with institutions and their evolution.

In the 1930's an evident anomaly from the point of view of standard theory occurred in the Great Depression. The inherited economic theory could not explain what happened. From the perspective of neo-classical theory a large shock would be necessary to cause a large decline and no proximate large shock, except for the stock market collapse, had occurred. Furthermore, no explanation of the stock market crash or of the subsequent debt deflation could be adduced from the standard economic theory. Even though business cycles, financial crises, and deep depressions were well documented phenomena through the 19th and early 20th century, the ruling economic theory, the neo-classical theory sketched in Chapter VI, did not explain these events.

Not being able to explain what happened is bad enough but a more serious matter for a discipline that claims to have practical input is to be unable to offer advice that promises to ease a trying situation, i.e., advice that is backed by a respectable and accepted theory and seems to address the problem at hand. All that standard economists could do in the early 1930's is to note that similar depressions had occurred in the past and that the incoherence had
passed. Thus it was held that in time the crisis of the early 1930's will pass away. Endure the suffering seemed all that respectable economists could recommend. Even as it was evident to almost all that things were getting worse, President Hoover insisted that "Prosperity was just around the corner". In fact in the midst of protracted and rapid decline in prices, the Federal Reserve System undertook deflationary actions to protect the gold reserves: inflation was fought in the midst of deflation.

Perhaps one lesson of the descent into the depths of the Great Depression is that Presidents and other politicians cannot afford to be anything but myopic and pragmatic. In particular in an open democracy political leadership cannot afford to let "nature take its course" if that implies that the political leadership stands by and allows things to get worse. It therefore is vital that the actions of the political leadership be guided by an analysis that is relevant to what is happening. In the early 1930's as a debt-deflation was leading the economy into a deep and protracted depression, the standard theory offered no guide to policy.

Of course not all who offered advice were standard economists. The Marxists held that what was happening in the Great Depression was inherent in capitalism; their policy advise was to replace capitalism with vaguely defined socialism. In addition largely outside of New York and New England there were intellectual remnants of the Populist and Progressive movements of the late 19th and early 20th century. This tradition was suspicious of orthodox views in economics and was uncomfortable with the dominance of corporations in economic life. The program for recovery and reform that emerged out of this tradition involved large measures of debt financed public works as well as liberal doses of trust busting. (Cf. Henry Simons: There is little in the Positive Program for Laissez-Faire that would have apprized a 1880's populist.)
The great decline of the American economy from 1929 through 1933 involved not only an explosion of unemployment but also a number of crises in financial markets. The steady rain of failures of banks, other financial institutions and corporations was punctuated by several intervals in which a torrent of failures occurred. It became evident to economists that progress in the discipline required a better understanding of why our type of economy was so given to fluctuations. Research on business cycles was a major activity and a variety of single-cause-single-remedy approaches to business cycles appeared. A “race” was on for new theory. The race was won by Keynes.

In August 1931 in an essay titled "The Consequences to the Banks of the Collapse in Money Values" Keynes stated a view of how money enters into and affects our economic life that is in striking contrast to neo-classical views as exemplified in the quotation from Friedman. Keynes wrote:

There is a multitude of real assets in the world which constitute our capital wealth—buildings, stocks of commodities, goods in the course of manufacture and of transport, and so forth. The nominal owners of these assets, however, have not infrequently borrowed money in order to become possessed of them. To a corresponding extent the actual owners of wealth have claims, not on real assets, but on money. A considerable part of this ‘financing’ takes place through the banking system which interposes its guarantee between depositors who lend it money, and its borrowing customers to whom it loans money wherewith to finance the purchase of real assets. The interposition of this veil of money between the real asset and the wealth owner is a specially marked characteristic of the modern world.3

Money, in this view, is created in the process of direct or indirect financing of investment and of positions in capital-assets. In the first instance an increase in the quantity of money finances either an increase in the demand for investment output or an increase in the demand for items in the stock of capital-assets. Furthermore, as money is created, borrowers enter upon commitments to repay funds to the lending bank. Money is, in its origins in the

banking process, part of a network of cash flow commitments, a network that rests upon the profits that firms receive as capital-assets are used in production processes. In an economy in which government is but a small part of the total economy, which was true in 1931 when Keynes wrote the above, the money supply increases when bankers and their customers are willing to increase current indebtedness because they believe that future revenues will finance the repayments.

Symmetrically the money supply is decreased by the banking process as banks reduce their loans, which occurs when bankers and their (potential) borrowing customers believe that future profits will not validate commitments that would be part of a debt contract. Banks fail because the cash they are supposed to receive from assets are not forthcoming or because the assets they expect to sell to acquire cash cannot yield cash as anticipated. Bankers modify their expectations whether cash flows to business will be adequate to validate debt on the basis of their experience. Success by business in fulfilling commitments to banks tends to increase the money supply and failure because it leads to a reluctance to lend by business to fulfill commitments tends to decrease the money supply. The supply of money in this view is very much determined within the economy in response to profit anticipations of business.

Money in Keynes' view is related to the way in which ownership and control over capital assets are financed; money is part of the mechanism by which today's views about the future affects current behavior. Furthermore, when the money supply increases both bankers and their borrowing customers have favorable views about the future. Symmetrically unfavorable views about the future make bankers and their borrowing customers contract their loans and thus reduce the money supply. Furthermore, a shift from favorable to unfavorable views about the future that affect bank lending is a reaction to phenomena that are internal to the operations of the economy such as sharply rising interest
rates, decreased profit margins, rising labor costs, price and cost inflation, and, most importantly, the emergence of debtors who find it difficult to fulfill their commitments on debt.

Obviously, banks and their borrowing customers must remember the past and recognize that the future can be unlike the past. They cannot be "automata" that treat present prices and present cash flows (that result from prices relative to costs) as if they will rule forever, more. Both bankers and their borrowers must be aware of time and therefore they must recognize that their current decisions are made in the face of an uncertainty that cannot be separated from history. Calendar time and commitments denominated in bank liabilities (i.e., in money) are of vital importance in an economy in which the debt financing of positions in capital assets, the great depression worked its malevolent ways upon the world economy, it became evident that a satisfactory theory for the behavior of the in fact economy needs to integrate monetary and financial variables into the explanation of why coherence does or does not rule. The split between what is taught in pure theory and what is taught in money and banking that Samuelson recalls from his days as a student at the University of Chicago became untenable.*

The new and revolutionary theory that Keynes announced in his postal card to George Bernard Shaw was a theory of the performance of a capitalist economy that integrates the operations of what we characterized as a "Village Fair" with the activities of "Wall Street". One of the peculiarities of the neo-classical theory that preceded Keynes and the Neo-classical synthesis that succeeded Keynes is that neither allows the activities that take place in the boardrooms of Wall Street to have any significant impact upon the "coordination" of "lack of coordination" of the economy. To Keynes the problem

of theory was to explain why our economy is so given to fluctuations. He based his explanation upon the ways in which money and finance affect the demand for output in a capitalist economy.

Keynes' explanation of the performance of a capitalist economy emphasized investment, how investment is financed, and the effects of past financial transactions. The core of Keynes' analysis integrates the profitability of existing capital-assets, the financing conditions for investment and the existing capital-assets, and the supply conditions of investment output into a theory of investment. Underlying this theory of investment is the view that because investment is a decision that by its very nature involves calendar time, the investment decision is made under conditions of uncertainty. We know the existence of uncertainty makes insurance a profitable enterprise. However the "business cycle" and the financial difficulties that occur during business cycles do not conform to the conditions that make insurance, such as life or accident Insurance, feasible. There is no known and stable frequency distribution of the events against which protection is sought such that an insurer can set premiums, based upon loaded odds, which enable the party at risk to transform a large contingent loss into a small certain cost. Thus we can expect decision makers who have to act in the face of uncertainty to seek to protect themselves against unfavorable contingencies by the way in which they arrange their affairs. This involves avoiding the exposure to events that might cause losses and composing asset and liability structures that provide some felt protection against unfavorable contingencies.

Keynes' General Theory was written in response to The Great Depression and in the face of a financial collapse that was associated with an enormous downward movement of prices. His theory emphasized the existence of uncertainty. An analysis of investment under conditions of uncertainty and with capitalist
financial usages became the core of his theory. Unfortunately for the development of economic theory, for an understanding of how our economy works, and for the design of policy to improve the performance of our capitalist economy, Keynes' investment theory of business cycles and his financial decisions in the face of uncertainty theory of investment were lost as the standard interpretation of Keynes's General Theory was developed. The standard interpretations of Keynes have been integrated with the classical theory of Chapter VI into today's ruling economic theory, the neo-classical synthesis. Whereas Keynes in The General Theory proposed that economists look at the economy in quite a different way than hitherto, in the evolution of economic theory over the forty years since The General Theory appeared only those parts of The General Theory that could be readily integrated into the old way of looking at things survived. What was lost was a view of an economy always in transit with internal to the economy disequilibrating forces, a view which made sense in operating the economy transitory. Instead, in the view that was lost was inherently flawed. What survived was a view that one of a small number of things went wrong as the economy went into the great depression and apt policy could have set things right. What survived in the standard theory is the view that if policy were apt, perpetual full employment at stable prices could be attained. All the existence of the dynamic and internally disruptive forces were ignored. The neo-classical synthesis became the economics of capitalism without capitalists and capital assets and financial markets, very little Keynes survived in standard economics.
B. Chronology of the Keynesian Input

To understand the interpretations of Keynes that entered the literature and the influence of Keynes over the last forty years, it is useful to keep some dates in mind. In the United States, the downward phase of the Great Depression took place between late 1929 and early 1933; a convenient beginning for the Great Depression is the crash in the New York Stock Market in October 1929, a convenient end to the downward phase is the inauguration of Franklin Roosevelt as President in March of 1933. The economy never fully recovered, for unemployment continued to be a pressing problem until arms expenditures in preparation of World War II became important. World War II began in Europe in September 1939. Pearl Harbor and with it the United States' entry into World War II took place in December 1941.

Keynes published his "revolutionary theory" in *The General Theory of Employment, Interest and Money*; this work appeared in 1936. (The preface is dated December 13, 1935.) The reviews and formal, often semi-mathematical, expositions of what *The General Theory* is about began to appear in 1937.

The reform and recovery efforts of Roosevelt's first term preceeded the General Theory: Roosevelt's second term began in January 1937. After *The General Theory* appeared some of its ideas were used to explain and after the event rationalize the effects of the government deficits that occurred during the recovery years. However, the government spending programs of the first years of Roosevelt's "New Deal" were motivated, rationalized, and defended on the humanitarian grounds that the unemployed needed income so as not to starve. Work was the way to provide income; the idea that money income could be distributed independently of work
was considered to be a 'dole', which was anathema to the country. The idea that a government deficit would increase output and employment in the private portions of the economy was not advanced as the reasons for the government spending programs, even though some ideas that "pump priming" was a good thing were advanced.

The New Deal was a reform effort as well as a recovery program. The structural reforms mainly undertaken in the years 1933-37 were in place prior to the publication of the ideas of The General Theory. To the extent that the reforms tried to arrange things so that a Great Depression could not occur again, the reforms had to reflect an explanation of the Great Depression. The structural reforms of the New Deal years mainly treated price deflation as the major cause of the Great Depression; from the point of view of The General Theory price deflation was a symptom and part of the process that led to the severity of the depression but it was not the cause of the depression. From the perspective of The General Theory the structural reforms of 1933-37 treated a symptom but not a cause of the great decline.

A recession occurred in 1937. The recession of 1937-38 was largely imputed to price increases that occurred in various "administered price" areas as the partial recovery took place although some economists, newly converted to Keynes such as Alvin Hansen, emphasized the fiscal push from the Veteran's bonus of 1936, the fiscal and monetary constraint as the economy moved towards a balanced budget in 1937 and the Federal Reserve took action to offset what was viewed as an inflationary potential as cause of the recession. The recession of 1937-38 did lead to the Temporary National Economic Commission, which mainly blamed monopoly and administered prices for the incomplete expansion. However Professor Alvin Hansen's testimony to the Commission was important in introducing Keynesian ideas into the United States.
States policy discussions. It was not until the expansion of government activity with the arming for and fighting of World War II that a significant number of economists who had been influenced by Keynes became active in government and influenced policy.

One reason Keynesian ideas had some quick influence is that the theory, even in the bowdlerized form in which it was accepted, held that the market mechanism was not necessarily a self-correcting system that sought out and sustained a full employment situation. It was obvious to anyone living through the 1930's that the market mechanism was a fallible coordinator of economic activity, and that even if the economy tended to correct deviations from full employment, the correction did not take place quickly. Furthermore the path from an initial disturbance to a reasonably close approximation to full employment might go through "hell". The time it took for the internal adjustment processes to lead the economy back to full employment after a great recursive decline, like that of 1929-1933, was too long and too costly in terms of human suffering to be acceptable politically once it is accepted that depressions are not necessary.

An economic order is a human artifact that can be changed. The thirties were replete with various suggestions for reforming the market mechanism. An interesting and important aspect of the interpretation of Keynes that entered into the neo-classical synthesis is that the critique of capitalism as such that is contained in The General Theory was ignored. Furthermore Keynes was interpreted to mean that employment can be sustained to and maintained at a close approximation to full employment regardless of the structure and institutional organization of labor and product markets. This meant that the politically touchy problems of the structure of industry could be largely ignored in formulating policy.
Recovery and the sustaining of full employment did not require a decisive struggle with the giant firms. Monopoly/cartel policies were not vital if the potentially adverse effects upon employment of monopoly and cartel pricing can be offset by an appropriate fiscal policy.
C. Labor Market: Dominant or Dependent

A key characteristic of Keynesian models that entered mainstream economics is that the level of employment is not determined by the internal working of the labor market. The classical model begins their story by determining an equilibrium employment and price deflated wage by the supply and demand conditions in the labor market. This equilibrium employment reflects production characteristics of firms and preference systems of households. The labor market is treated in a manner that is analogous to how the market for peas or pea shooters would be handled.

Furthermore, if a disequilibrium appears in the form of either excess supply or demand for labor, the disequilibrium will be eliminated by appropriate changes in the price deflated wage. Once employment is given, output is determined by the economy's production characteristics.

In place of the above classical scenario, Keynes introduced a tale that begins with the determination of the demand for output by various homogeneous classes of economic units. The demand for output by households and by business are identified in the pure model, the demand for output by government is identified in the policy model. In addition, the model can be opened up to allow for foreign trade. Total demand is the sum of these sectoral demands. Employment equals the demand for labor as derived from output demand, provided the labor demanded is equal to or less than the quantity available at the ruling set of wages. Thus in Keynes' view it is possible for the supply of labor at a ruling money wage to exceed demand. Furthermore, the processes set in motion by an excess supply of labor will not be effective in eliminating the excess supply.

Keynes characterized this situation of excess supply of labor or involuntary unemployment as an equilibrium. It obviously is not a no
excess supply - no excess demand situation; it is an equilibrium only in
the sense that the excess supply will not be readily eliminated by pro-
cesses set to work by the excess supply.

In considering the processes that are set off by an excess supply or
demand in a market it is useful to distinguish between own market
and intermarket processes. In a market the own market reactions include
the movement of the price and quantity of the commodity or service itself.
The intermarket reactions depend upon how changes in own market variables
affect supply or demand conditions in other markets and whether appropriate
feedbacks from other market changes occur in the initial market.
In the labor market the own market variables are the money wages of labor and
the amount of labor actually employed. By the standard dynamics excess
supply of labor is presumed to lead to a fall in the money wage. But a fall in
the money wage lowers supply prices of output and the incomes of the employed
workers. Lower income lowers demand. With wages lower both the supply
and demand for output will decrease; there is no presumption that a fall in
money wages will lower price deflated wages. The effects of changes in
labor market variables upon the labor supply and demand relations are
such that an initial excess supply of labor may not be eliminated.

If a fall in money wages cannot eliminate excess supply of labor
through own market reactions, perhaps it can work towards eliminating
excess supply of labor by way of its effects upon other markets. This
question is transformed within the Keynesian framework into how do money
wages and output prices affect consumption and investment expenditures.
Keynes emphasized one indirect path which led to a decline in money wages
affecting interest rates, and showed how this effect is likely to be of
limited power in removing the excess supply. Furthermore in a way that
will become clear later. He emphasized how a fall in money wages and prices will make things worse initially because it will decrease the cash flows that are necessary to meet commitments on debts.

The essence of the neo-classical synthesis is to accept that aggregate demand determines a demand for labor that is independent of the real wage and then show that market processes will assure that this demand for labor will in time equal the full employment equilibrium demand for labor. That is, if an excess supply of labor exists, market processes will shift the demand curve for labor derived from the demand for output so that the excess supply is in time eliminated; the quantity of labor demanded will increase because aggregate demand increases. Because, the path from excess labor supply through falling money wage rates to interest rates and investment demand was shown to be full of slips, the neo-classical synthesis introduces an effect upon consumption demand from money wage rates such that a decrease in money wages leads to an increase in consumption demand.

The neo-classical synthesis starts with a conclusion and constructs an apparatus that demonstrates the validity of the conclusion. The conclusion is a powerful one: the market mechanism will lead to full employment equilibrium from initial situations in which unemployment rules. The inventors of the neo-classical synthesis granted the Keynesians a great deal—the basic Keynesian apparatus of analysis and an initial situation that conformed to the Keynesian less than full employment situation. It also granted the ineffectiveness of labor market processes in directly eliminating unemployment and accepted that the path from wage declines through interest rate declines to investment might fail to achieve a close approximation to full employment. Nevertheless, by making a reasonable assumption that
other things being the same, a wealthier consumer will spend more than a less wealthy consumer. The neo-classical economists show that there is an internal mechanism of a market economy that may assure that the demand curve for labor derived from aggregate demand will intersect the "classical" supply and demand for labor at their intersection, i.e. at full employment. This result of the neo-classical synthesis reaffirms Say's law. Say's law can be taken to assert that supply creates its own demand, not in the sense that whatever is supplied at whatever terms will be demanded, i.e. not in the sense that supply and demand are identical, but in the sense that if excess supply (or excess demand for that matter) exists at one set of market variables then changes will take place which will modify decisions controlling market values until such quantities and prices rule throughout the system as to eliminate excess supply (or demand). This is a powerful result achieved after giving a great deal away.

In the Keynesian scheme the labor market does not determine employment and output. However, the money wage enters the cost and therefore the supply conditions of output. Furthermore, the money wage times employment determines the demand for output forthcoming from labor. The labor market and in particular the wage rate has a major role in determining the price level in the Keynesian scheme. No longer are money prices determined after relative prices are determined; money prices are determined in the very labor and product markets which determine relative prices.

Keynes made employment depend upon the interaction of aggregate demand and aggregate supply, but in the standard interpretations, Keynes' theory of aggregate supply was largely ignored. The determination of aggregate supply under capitalist circumstances is subtle, it is not simply a transformation of production possibilities as standard theory has it. In a capitalist economy output is supplied as a byproduct of the pursuit of profits. Profits from the use of capital-assets at any one time or in a particular use may be earned at the expense of not having the capital-assets available at another time or for a different use. Thus "time" enters in the very special guise of foregone possible revenues when the supply of outputs that use capital-assets which are not automatically replenished by nature are considered. The supply of output under capitalist circumstances depends upon views businessmen hold about the relation between current and future profit opportunities and the cost of carrying unused capital-assets. The theory of supply under capitalist circumstances cannot ignore the way control over capital-assets is financed and the payment requirements imposed by financing conditions, conditions which are ignored in the standard theories of supply.

The ingredients from Keynes' analysis of supply that entered the standard interpretation are that varying amounts of output, up to some full employment level, can be produced and that the supply price of output will tend to be constant, or slowly changing, for outputs smaller, by some amount, than the full employment output. If aggregate demand exceeds the
full employment aggregate supply at inherited prices, then supply prices will tend to rise more rapidly. But if aggregate demand falls short of the full employment level by some modest amount, then prices will not fall or will fall but slightly. This gives rise to a theory in which prices do not change much for some range of aggregate demands relative to aggregate supply, tend to increase if aggregate demand exceeds some level and tend to fall if aggregate demand falls below some level. The movement of prices in general is not determined by some mechanism that is separate from the movement of particular prices and the supply and demand situation in markets. Presumably if aggregate demand rises relative to an unchanging aggregate supply function, the demand for particular commodities will rise relative to their supplies. The same mechanism applies to price level determination as applies to the determination of particular prices. Whereas the classical theory held the forces of supply and demand determine relative prices and allowed the mumbo-jumbo of the Quantity Theory generalization determine the price level, the Keynesian aggregate supply and demand theory determines money prices and thus the price level by the same mechanism that is used to determine the money price of particular commodities or services.

Given the specification of aggregate supply that entered the literature, the determination of employment depends upon aggregate effective demand. Up to some full employment barrier a rise in aggregate demand leads mainly to a rise in employment, beyond that it mainly leads to a rise in prices. For purposes of analysis private domestic demand is broken into components that are homogeneous with respect to the units involved and their behavior. Households are one homogeneous class and households have
incomes and buy "consumption goods". Another homogeneous class consists of business firms, which have current and anticipated profits, own capital-assets and financial assets, and which usually have liabilities outstanding that require either cash for servicing or which lead to some financial market transaction. Investment is the aggregate demand from business firms.

In addition to private domestic aggregate demand, foreign demand and government demand enter into total aggregate demand. Total aggregate demand equals total output, which is called gross national product. Gross National Product is equal to the sum of consumption, investment, foreign output, and government demands; furthermore consumption demand is a function of total income or income after tax adjustments. Because of this behavioral specification — that consumption depends upon income — it is possible to derive income as a multiple of the sum of investment, foreign, and government demand. In this version of Keynesian theory — which was mainly developed by Alvin Hansen — the aggregate demand for output and thus for labor is a multiple, which is derived from the relation between consumption and income, of independently determined investment demand and demand for exports and the politically determined government spending and taxation. In this view any shortfall of income from some target level can be offset by an appropriate change in government expenditure or taxes; fiscal policy becomes a device for steering the economy.

Because this view holds that consumption is a well behaved function of income and income is the sum of consumption, investment and government spending a simple function that makes income a multiple of investment and government spending can be derived. The simple relation says that income is some constant K times investment and government spending.
In the simplest expositions $K$ is the reciprocal of the ratio of an increment to savings out of an increment to income; what is called the marginal propensity to save.

The ideas that savings out of income has to be offset by investment and government expenditure and that more investment (or government spending) leads to higher incomes which generate the offsetting savings are clearly stated in this simple one function Keynes/Hansen model. Conservative businessmen, politicians, and public figures who argue that the tax system should be adjusted to increase incentives for business to invest because more investment means higher incomes and employment are implicitly accepting the validity of this simple Keynes/Hansen model.

The consumption function/multiplier model builds on a small part of the argument and analysis of Keynes' *General Theory*. Excluding the Preface and the Index *The General Theory* runs for some 384 pages. *The General Theory* is broken down into six books and 24 chapters. Three chapters totaling 43 pages make up Book III, "The Propensity to Consume". Eight chapters totaling 118 pages made up Book IV; "The Inducement to Invest". From the make up of the book it is evident that Keynes viewed the issues around investment as more important and more difficult than the problems of consumption.

Keynes' approach to investment was to link investment to the pricing and financing of capital assets in a capitalist economy. It is evident that the subject matter of Keynes' theory is a capitalist economy for the properties of interest and money that are central to his analysis only exist in a capitalist economy. The material in Book IV does not enter the consumption function models.
The outbreak of World War II occurred in September of 1939 and soon afterwards Keynes and some of his Cambridge students were ensconced in the government. It turned out that thinking in terms of the aggregates of Keynesian theory proved useful in war planning. During a serious war effort investment on private account diminishes to the vanishing point. Government war demand and consumption make up aggregate demand. Furthermore, taxation and rationing are used to constrain and control consumer spending. In war time circumstances the conundrums about investment, the financing of investment, and the relation between financial flows and system coherence or stability that so concerned Keynes in The General Theory are irrelevant. The relation between different demands and employment are not of major importance in an economy which is short of labor because of a serious war-effort.

A war economy is one in which finance — aside from government finance — is unimportant. As World War II progressed increasingly complicated models based upon the consumption function and exogenously determined or controlled investment and government spending were developed. These models became a basis for planning for demobilization and the return to a civilian economy. Thus it is no surprise that in the early post war years ways of analysing the private economy and techniques for forecasting the economy’s performance were developed which were largely based upon the consumption function, and which either ignored monetary and financial relations or introduced monetary and financial relations in a very primitive way. A leading player in this game is Professor L. Klein.

Forecasting models were first developed as academic exercises and later became instruments used in policy analysis and forecasting. The
technique for building such a model is to add sectors, such as state and local
government or to break down components of aggregate demand, such as
breaking consumption demand into durable, non-durable, service and auto-
mobile demand and derive empirical equations relating each of these sectoral
variables to other variables in the system, prior values of variables,
variables which reflect policy decisions and outside unexplained variables.
By breaking down variables like consumption and investment into component
parts and by introducing sectors such as state and local government and
financial institutions, the outcome in terms of income and employment is
made to depend upon a complex system of relations, an apparent structure of
the economy underlies the model.

It is quite common to set the model up in terms of "markets" - such as
durable goods, services, labor - and to treat aggregate demand as if it were
the result of the behavior in these markets. However these are "pseudo-
markets" for there are no markets for durable goods, there are various kinds
of durable goods and each kind is produced by firms and sold by retail outlets in
industries with particular institutional characteristics. As a result of
the way in which the various "pseudo-markets" are interrelated in these
forecasting models, the outcome very much depends upon the structure of
relationships that are specified. It is to be emphasized that the struc-
tural models of the economist are not like the models that aeronautical
engineers test in wind tunnels. They are not miniature replications of
what goes on in the economy; the "structural models" of the
forecasters are "disaggregations" of the large aggregates used in simple Hansenian/Hansenian theory.

By disaggregating and introducing additional variables, each of which
requires further explanation it is possible to make the forecasting
format as complicated as is desired even though the intellectual sophistication of the work never goes beyond that of the simple consumption function or multiplier model.

These consumption function based forecasting models still survive in various government agencies, the Federal Reserve System, and a good number of profitable commercial services. Wharton Econometric, Chase Econometric and Data Resources are popular fee for forecasting organizations. These models are continuously revised to take into account emerging data. Their existence as 'up to the minute' forecasting tools depends heavily upon capabilities of modern electronic computers. Because computers allow experimentation with different forms and different variables for the equations that summarize experience and enter into the model, the models generally use fitted equations that best satisfy statistical tests for the closeness with which formulas replicate past experience. As a result of this experimental approach forecasting models change by modifying existing equations and the existing models are a hodge podge of often contradictory pieces.

Forecasting involves feeding policy items such as government spending and taxes and Federal Reserve operations into a model whose structure consists of equations which represent the components of aggregate demand. The various equations have parameters which were derived empirically. Each structural model is transformed into "solution" equations for the system determined variables that interest the forecaster. The model gives values of variables for a particular date as a function of the past of the system. If the model is well behaved, the "forecast" values of the variables can be used as "past values" to get even further into the future values of the
variables of interest. By such recursive computations a time series can be generated. Each time series can be called a "run" of the model. By varying the policy premises and the behavior of unexplained variables multiple runs of the model can be generated. If these different runs vary in their policy assumptions, then these are policy simulations. Policy evaluations such as "If we give each person a $50 rebate, then income will be ___ higher, inflation will be ___ greater and unemployment will be ___ lower than otherwise" are the result of simulations of the economy by runs with forecasting models.

Policy simulations can also be made by varying the fitted or estimated parameters in structural models where the change in legislation or in institution is expected to affect these parameters. Simulations of complex models to allow for changes in minimum wage or in pollution control are made. Even though the policy simulations come to the policy maker with impressive computer printouts, the simulation cannot be any "better" or more relevant than the underlying model. The underlying empirical or econometric model cannot be any closer to economic reality than the economic theory that inspired the model builder. In particular events such as instability from within the workings of the economy because of financial interrelations cannot be caught by a model which does not specify the financial structure so that instability is a possible event.

As the 1970's progressed it became clear that models which ignored financial relations would not do as forecasting models. As a result of a vigorous attack by advocates of monetarism upon the forecasting models and the failure of the models to forecast much of what happened in the seventies, the models were modified so that the money supply - as an
exogenous factor - became of greater importance in the forecasting process. We now have forecasting models which combine Keynesian aggregate demand and classical quantity theory ideas. Such models are internally inconsistent; what success they enjoy is due to the way in which the past values of variables are used to estimate near term future values. The success demonstrates that the economy has a good deal of momentum.

The simple consumption function approach is also used in the classical synthesis model of economic growth. However, in these models of growth it is assumed that investment automatically fills the gap between full employment or capacity income and consumption. Thus the average propensity to save determines the proportion of income (and employment) that is used to produce investment output. Presumably the ratio of investment to the capital stock determines the rate of growth of the economy, thus more savings if we can assume full employment implies a faster rate of growth.

In the conventional discourse about economic policy, two assertions about the relation between investment and the performance of the economy are common. One assertion is that investment is needed because it generates employment. This proposition follows from the simple Keynesian model; but this model also asserts that consumption, government spending, and exports generate employment. The second common assertion is that investment generates economic growth and that higher ratios of investment to income will accelerate growth. Furthermore it is usually asserted that to get more investment more saving is needed, thus policy which aims to increase investment operates to increase the savings ratio either directly by redistributing income or indirectly by increasing the willingness and ability of firms to use debt finance.
The simple Hansen consumption function model, which ignores financial relations and puts the monetary mechanism in a subsidiary and accommodating role, was the backbone of an entire generation of economics textbooks and the rock upon which the fiscal policy approach to fine tuning the economy such as characterized the Kennedy-Johnson years was based. It has proven durable because it is the intellectual basis of the forecasting and policy simulation models. The complex econometric models that succeeded the Hansen model in losing its popularity were little more than extensions of the simplest Hansen model with a) consumption broken down into various types of consumption (services, non-durables, durables, automobiles), b) taxation and transfer payments allowed for so income becomes disposable income, c) state and local governments added, and d) allowing for some investment such as housing to be determined inside the system. These econometric models can be very complex structures built upon an extremely simple input of the Hansen models which are supposed to be the basis of policy analysis.

When forecasts are wrong and forecasts only affect private decisions, the only losers are those business firms and households who were foolish enough to act on the basis of the forecasts. However, these models that are based on the consumption function are used in policy simulations, as a result of which they become the basis of recommendations by technical staff among policy alternatives. But if the model that is used is mainly made up of equations that were successful in tracking the past, the simulation model need not reflect the in fact ongoing processes of the economy.

Instability was an evident trait of the American economy in the years following the middle-1960's. The models derived from the Hansen formulation of Keynes are incapable of generating financial instability by their internal processes. Policy choices that are made on the basis of simulations with such models are based upon the explicit assumption that
what has been observed to occur is not financial instability or cannot occur.

Obviously policy decisions made by ignoring a major part of reality will often miss the mark as far as policy objectives are concerned.

The line of development that starts with Hansen's simplification of Keynesian concepts to the consumption functions based forecasting and simulation models provided economists with a simple, powerful and relevant way of looking at our economy as long as the economy was such that financial and monetary factors could be largely ignored. The early post-war period—running from 1945 to the middle 1960's—was just such a period of financial and monetary tranquility. Financial and monetary tranquility has been replaced by turbulence in recent years and the relevance of the models derived from Hansen generation models has declined. Forecasts and policy simulations with such models are likely to be a poor guide to policy choices: the economy will not behave as it is "supposed" to.
E. The Hicks' Version

The most successful formalization of Keynes in academic economics that goes beyond the simple consumption function model of Hansen is that which John R. Hicks put forward in a famous article that appeared in 1937, soon after The General Theory was published. Hicks recognized that the essence of Keynes' theory was that financial and monetary markets cannot be segregated from the determination of aggregate output. He handled the problem of integrating the financial and the commodity sides of the economy by allowing for two sets of markets, one for commodities and the other for "money" or "finance" (bonds), and by making the functional relations in both sets of markets depend upon the same variables—an interest rate and the level of income. He also set the problem up as an equilibrium problem. Aggregate demand and the interest rate would settle at levels which simultaneously satisfied the conditions for equilibrium in both the commodity and money markets.

A parrot trained to say supply and demand could pass as an economist. J. R. Hicks set the determination of aggregate demand up as a "supply and demand" problem; however in both the commodity and the money market he recognized that there are combinations of interest rates and incomes that would equate supply and demand. In the commodity market the supply of each component of output conformed to the fixed price within a range of outputs view of aggregate supply that entered into Hansen's formulation. As in Hansen, demand for commodities is made up of two parts: The demand for consumption and the demand for investment.

Consumption demand was taken to be a function of income and the interest rate. The use of income as a variable was a bow towards what
later emerged as the "one function" view of Keynes. The use of the interest rate as a variable in determining consumption was a bow to the classical views of savings as motivated by intertemporal choice.

Hicks took investment to be a function of the interest rate and the level of income (mainly as an after thought). At this point Hicks made a major step towards accepting the classical model, for the relation between investment demand and the interest rate reflected the productivity of investment. This identification of the interest rate with a production function attribute meant that Hicks was implicitly and inadvertently assuming that the economy functioned at some unique "full employment" income level. In an economy with variable levels of employed to employable labor, the profits earned by capital assets depend upon the extent to which they are used or upon their relative scarcity. Technologically a steel mill is just as productive when it is working well below capacity as when it is working at capacity, although it is much more profitable at capacity output than at less-than-capacity utilization levels.

Income equals consumption plus investment and both consumption and investment are functions of the interest rate and income. A two dimensional curve relating interest and income is derived: On a graph in which the price (the interest rate) is the vertical axis and the quantity (income) is the horizontal axis this curve slopes downwards and to the right. The rationale is that lower interest rates induces the use of factor combinations which use more capital assets relative to labor; thus lower interest rates mean a greater rate of investment. More investment in the multiplier relation means larger incomes.

The argument with respect to the interest-investment relation used
in the Hicks' formulation and in most formulations which stick to such an inter market equilibrium approach is mainly a hand wave. Even if it is true that lower interest rates implies that production is best carried on with higher capital output ratios, investment is a time rate of change of capital assets. A desire for a larger capital stock doesn't necessarily mean that the capital stock will increase at a more rapid rate. However we can carp about the Hicks' formulation later, at present our aim is exposition. In his original article Hicks offered no argument for the way he stated his investment function. The long arguments about investment and capital asset/financial instrument prices in Keynes' General Theory were ignored.

Money is demanded for its ability to expedite those transactions which enter into current output and as an asset which offers an "in kind yield". (Hicks and the other economists of the neo-classical synthesis have a problem at this point. Because they do not recognize the importance of Keynes' hypothesis with respect to uncertainty, there is no "return" that they can identify with the "in kind yield" of money.) The relation between money demand and current output means that income is a variable in the demand for money and the "yield in kind" attribute of money is equated to the return on bonds, i.e., to an interest rate. If income is given then the greater the amount of money the lower the interest rate and for any given quantity of money a higher income is associated with a higher interest rate. Thus for any hypothetical quantity of money a set of combinations of interest rates and income exist at which the demand for money equals the hypothetical supply.

Ignoring everything Keynes wrote about the way in which the quantity
of money arises within a capitalist economy in the financing of activity, the Hicksian tradition assumes that the money supply can be controlled by the authorities. This means that the quantity of money is a policy variable, and by varying the amount of money in existence the authorities can select the set of interest rate-income combinations they want to rule. For a given money supply the interest rate-income combinations that yield equilibrium in the "money" and thus in the financial markets slopes upwards - a higher income is associated with a higher interest rate.

"Caloo-Keloy-he-chortled-in-his-joy"; the curve slopes downwards and the other slopes upwards and interest rates and income both must be positive. As the market equilibrium values are penned into the "first quadrant", the two market equilibrium curves must intersect. There exists one unique interest rate and income pair that simultaneously satisfies the equilibrium conditions in the money and the commodity markets. If the quantity of money changes then the equilibrium interest rate - income combinations for the money market can change and thus the intersection with the commodity market equilibrium function will change.

Once income is determined the level of employment is also determined. Let us assume employment is below the full employment level. However a greater amount of money can be expected to lower the interest rate and raise the income level - thus tending to decrease unemployment. It looks as if the model of Keynes has been transformed into a model in which money calls the tune: an appropriate quantity of money will lead to a full employment income level.

In order to get unemployment as an equilibrium position independently
of the amount of money supplied by the authorities it is necessary to introduce specifications of the shape or position of the commodity or the money market equilibrium curves. One way this can be done is by an "exhaustion of investment opportunity" specification of the investment demand function. What if the amount of investment forthcoming at a zero interest rate is insufficient to generate full employment, given the nature of the consumption income relation? That is no matter how low the interest rate may be driven by increasing the money supply, investment cannot be large enough to offset full employment savings?

If "investment" insufficiency is the cause of the unemployment equilibrium then policy can go one of three ways: government spending can be added onto income, the returns to investment can be increased by government guarantees, or the cost of investment can be lowered relative to the stream of anticipated profits. The first route leads to government spending programs, whether they be on roads or missiles. Further more, if the government spending on goods and services route is rejected, transfer payments can raise the consumption income relation so that the lowered investment level is compatible with higher employment levels.

Government guarantees of returns on investment projects have rarely been used in peace time as a policy tool in the United States. However government guarantees have been used on financial instruments such as mortgages.

Since the middle 1960's policy to cope with the diagnosis that more investment is needed for full employment has emphasized the lowering of the price of investment relative to profits and the prices of other outputs. The technique that has been used is the investment tax credit.
Fundamentally, the investment tax credit is a way of lowering the price of investment goods. As the investment tax credit has crept up from the modest 4% of the Kennedy-Johnson years to the 15% and 17% that Larry Klein and others seem to favor in 1977, the question of why not have a 100% investment tax credit arises. Of course a 100% investment tax credit is a socialization of investment excepting that the capital- assets are then allocated to specific corporations for their use and gain. With a 100% investment tax credit, the demand for investment will far exceed the supply so that the authorities will have to ration the privilege to invest. It is obvious that the investment tax credit at the ranges of 4% to 17% is a partial socialization of investment.

The exhaustion of investment opportunity approach allowed investment to respond to lower interest rates. Another way to get the same type of result is to make investment and consumption independent of the interest rate. This approach transforms the Hicks framework into the Hansen-Klein format; changes in the quantity of money can now affect interest rates but not income.

Another route that could be taken to make unemployment unresponsive to monetary changes within the Hicks' formalization is to have the interest rate independent of the money supply. This is the famous liquidity trap— an increase in the quantity of money for certain ranges of incomes and the money supply did not lower the interest rate. That is while increasing the money supply may be an effective way of lowering high interest rates it is ineffective in lowering already low rates; monetary policy will work in a prosperous but not in a depressed economy.
The liquidity trap argument renders monetary policy ineffective in situations where low interest rates rule but retains its effectiveness in situations where higher interest rates rule. However, the low interest rates of the liquidity trap characterize deep depressions. Thus monetary changes will not be effective in getting an enterprise economy out of a deep depression but it will be of use in steering the economy in other than deep depression situations.

The Hicks formulation is not the neo-classical synthesis, rather it was the basis for well-nigh thirty years of textbook expositions of the Keynesian model. Inasmuch as the curve of the equilibrium interest rates and incomes in the commodity market was usually labeled IS and the curve of the equilibrium interest rates and incomes in the money/bond market was usually labeled LM the Hicks’ formulation is known as the IS-LM model. A well-known economist of wit Martin Bronfenbrenner has labeled the Hicksian model the world of ISLAM. Much of research and policy prescription and a great deal of teaching even at this date uses the IS-LM formulation.

The IS-LM formulation paved the way for the neo-classical synthesis. It stated the money demand equation in such a way that it could be interpreted as the quantity theory money demand equation with a variable velocity and it quite correctly accepted a classical view of the investment function. However, the Hicks formulation had no way in which the reactions induced by an excess of labor supply over employment could force the demand for labor to increase. Although it had gone quite a ways towards accommodating classical ideas the Hicks’ model did not achieve the labor market dominance that is required for a classical equilibrium.
F. The Patinkin Resolution: The Triumph of Labor Market Dominance

To the economists who ruled the academic roosts the results Keynes obtained, that the demand for labor may fall short of the supply at "prevailing" wages, that in these circumstances demand will determine employment and output, and that the changes in money wages, money prices and outputs induced by an excess supply of labor will not necessarily succeed in eliminating the excess supply were unsatisfactory. Furthermore Keynes' assertion which reflected the description of how money, debt, and business profits are related which was cited earlier, that falling wages and prices are induced by excess supply of labor unemployment is likely to get worse rather than better as falling wages and prices tend to lower the components of demand lead to a farther fall in investment flow in the face of the standard wisdom that the economy was a "self-equilibrating" system. Keynes' theory implied not only indicated that there may be no market processes which guaranteed that the economy would achieve equilibrium but it also led to the proposition that the internal operating processes of a decentralized market economy could disequilibrate the system. This view implies that the coherence result of classical theory is valid only under appropriate conditions, if it is ever valid. Other things, and in particular the financial and monetary systems must be at some proper state and work in some proper way for coherence to exist. Keynes quite literally sent a neo-classical house of cards tumbling down.

Keynes' results meant that there was a "prize" awaiting any academic who could upset the heresy. The game became to show that even if Keynes is granted almost all of his assumptions and postulates, a decentralized market mechanism will tend to attain and then sustain full employment.

Part of the success of Keynesian analysis - and also one of the
reasons that the broader implications of Keynes' alternative economic theory were not realized reflects the development, almost concurrently with the publication of *The General Theory* of national income accounting. The system of national income accounts that is in common use was largely developed for the United States by Simon Kuznets. Preliminary results of Kuznets' research were available to Keynes as he wrote *The General Theory*. The system of accounts developed by Kuznets treated income in ways that are compatible with the breakdown of demand into homogeneous "behavioral" classes by Keynes. It was but a small logical step to use the apparatus as developed by Hansen and Hicks to explain the national income accounts. A symbiotic relation developed between national income accounting and the standard interpretation of *The General Theory*: national income accounting was relevant because of the analysis derived from *The General Theory* and *The General Theory* led to meaningful metrical statements about the economy because of the existence of national income data. [Cite Hicks' little textbook of the late 30's.]

The first research of Simon Kuznets developed the United States' national income accounts for the year after 1919. [Citations.] After the system of accounts seemed to prove useful, they were kept current. (Today the accounts on the United States are prepared in the Department of Commerce.) A second stage of Kuznets' research carried the national income accounts back into the 19th century. Out of Kuznets' research on the behavior of national income and its components a difference between the short run - or cyclical - and the long run - or secular - behavior of the consumption - income ratio became evident. In the short run - or over a 'business cycle' - the ratio
of consumption to income was higher in recessions than in prosperity. In the long run, averages of business cycles experience are computed with the ratio of consumption to income seems to be constant. The secular increase in income per capita (after allowing for price increases) was not associated with any secular increase in the ratio of savings to income. Even though an increase in income per capita that occurs during a cyclical expansion leads to a rise in the savings ratio, an increase in income per capita that reflects a secular trend does not increase the savings ratio. A rise in the savings ratio during a cyclical expansion means that investment has to increase at a faster rate than income as the economy moves to full employment. The higher investment to income ratio required as the expansion progresses makes it difficult to sustain the expansion.

Thus the short run behavior of the consumption income ratio that was apparent in the Kuznets data gives weight to views that an insufficiency of investment or short run oversaving led to the cyclical behavior of the economy.

The apparent paradox, in which the secular consumption-income ratio is constant whereas the cyclical ratio is variable, is the type of "problem" that academic researchers like: reputations are there to make by introducing a gimmick that resolves the paradox. Many played this game and various resolutions of the paradox appeared. These resolutions tended to fall into two classes; one tried to explain the observations by referring to social and psychological phenomena, the other referred to the economic phenomena of accumulation. One set of social and psychological explanations tended to argue that it takes time to adjust to increases in income and that once a consumption level is attained, it will be defended even if that involves decreasing savings or the dipping into accumulation.
Thus when income is reduced in a recession consumption tends to be sustained. Another set argued that "consumers" looked at their lifetime or permanent income. Consumption in this view is not based upon income as received but is based either upon the present value of all future incomes and where a unit is in its "life cycle" or upon the "permanent" income that a unit expects to receive. In principle both the lifetime and the permanent income concepts assume that a consuming unit has a "trade" or "skills", these skills fit the unit into production functions, and the marginal product of its "skills" or "trade" in the production functions leads to its income. From time to time deviations from this production function determined income will arise, but these deviations will not affect consumption. In depressions this income deviation is negative, in prosperity it is positive. Thus in depressions the ratio of consumption to income is high and in prosperity it is low. These life cycle and permanent income theories of consumption reconciled the difference between the cyclical and secular behavior of consumption. However, they did not lead directly to the elimination of unemployment as an equilibrium state of the economy.

When our economy does well, investment takes place and presumably useful capital-assets are accumulated: the average per capita wealth increases. If we make the assumption that the greater the value of wealth for a given income the smaller the incentive to save, then there will be a secular upward drift in the consumption income ratio as accumulation takes place. If over a business cycle the wealth per capita increases along with the income per capita and if the wealth/income ratio tends to remain about the same, then the incentives/disincentives to save

\[ \text{M. Friedman, F.} \]

\[ \text{B. Friedman} \]
will be about the same although income per capita has increased. Under these circumstances it is easy to accept that in the longer run the savings/income ratio will tend to remain constant.

The observation that the longer run savings/income ratio hasn't changed very much as income per capita increased and the explanation of this observation by referring to the effects of increased wealth upon consumption are keys to the construction of the neo-classical synthesis. What is needed is a way for the processes that presumably are set in motion by unemployment to lead to a rise in the consumption income relation. A rise in this relation means that income and thus employment increases for every level of investment.

A basic assumption in market economics is that excess supply leads to a fall in the price of the market commodity or service. Excess supply of labor therefore is taken to mean that wages will fall; a fall in wages leads to a fall in supply prices. The money wage rate deflated by a price level does not fall. If the quite classical price level deflated money wage is assumed to be the determinant of both the demand and supply of labor no reduction in unemployment need occur. To get a reduction in the decline in money wages and prices need increase either consumption or investment demand. The path by way of interest rate declines and investment was known to be barred (see above, p____ and ___); the only way open for price deflation to increase aggregate demand is if it increases consumption demand.

If prices fall and wealth per capita increases then it is expected likely that consumption per unit of income will increase. However wealth mainly consists of capital-assets. Capital-assets have value solely because of the cash flows or profits they are expected to generate. A general
decline in wages and prices is likely to lead to an equal or greater decline in the cash flows or profits that accrue to capital-assets. The value of the capital-assets component of wealth will go down as fast as or faster than the price level of output. A wealth effect that can increase consumption seems to be blocked.

However, the owners of wealth do not own only capital-assets, they also own money and bonds. Presumably the price deflated value of money and bonds will rise with falling prices: this should push consumption demand upwards. However, bank money is typically the result of debts to banks by private individuals and business. The burden of the payments required by debts increases as price deflation takes place. Thus we have an expansionary effect upon consumption due to the rise in the prices deflated value of money and a contractionary effect upon both investment and consumption due to the increased burden of servicing debt as prices fall. The desired shift in the aggregate demand curves will not take place as a result of a wage and price deflation as long as capital-assets or money that arises from private debts are the only assets—real and financial—in the economy.

The debts of banks that make up the money supply are offset by three classes of bank assets: private debts of the kind discussed in the above paragraphs, interest-bearing government debts, and gold or "fiat" currency issued by governments. Ignoring questions of whether units are aware of the increased price deflated taxes that will be required to service interest-bearing government debt as a price level deflation takes place, it is evident that a fall in prices will tend to increase the price deflated value of government debt (whether held by a
bank or directly by households and businesses). The price deflated value of gold or fiat money will also increase as money prices fall.

This real balance effect - that an increase in the price deflated relevant money supply will increase the consumption income ratio for every income - is the rock upon which the neo-classical synthesis is founded. If as a result of unemployment wages and prices fall so that a rise in the price deflated money supply takes place then the excess money supply will finance demand. If wages and prices fall as long as labor supply exceeds labor demand and if falling prices increase consumption, then in time the labor supply will no longer exceed labor demanded and the decline in prices will cease.

Once the demand for labor derived from the sum of investment consumption passes through the intersection of the labor demand and supply curves, then the price deflation ceases. We now have a model in which the classical labor market is dominant so that the system settles at an income level given by the full employment labor supply. Once output is given, then the savings and investment functions determine the interest rate. Once the interest rate is given, then the "velocity" or the cash balance is determined. With output and interest rate given, the demand and supply of money determine the level of price. The Keynesian beginning leads to the classical result once the money wealth effect is introduced. The money as wealth effect is known as the real balance effect.

The "trick" of introducing the price deflated value of the money stock that does not reflect private debt into the consumption function is mainly credited to Don Patinkin: Hence this "real balance" path to achieve

*Friedman, M. (Monetary Framework).
the demand consistent with labor market equilibrium is properly labeled the Patinkin resolution. Note that if we start with the Patinkin equilibrium and change the quantity of the relevant type of money then a disequilibrium will be set up along with various destabilizing and equilibrating processes. Eventually the equilibrating process will take over and the process will seek out the price level that stands in the same ratio to the initial price level as the new quantity of relevant money stands to the initial quantity. At this new equilibrium all the variables of the system other than the money supply and the price level will be exactly as they were in the initial equilibrium. The Patinkin resolution reestablishes the quantity theory of money – except that the proportionality between the price level and the money supply holds at equilibrium position. Out of equilibrium positions are characterized by deviations from this equilibrium ratio between money and money prices.

With the Patinkin resolution we have achieved the neo-classical synthesis. The fulcrum used to move the world to its full employment (w = supply) equilibrium is the excess demand for commodities or services that exists (w = demand) whenever there is an excess supply of money. Truly the Patinkin resolution is more than the quantity theory of money for it achieves the labor market dominance that characterizes neo-classical economics as a theorem rather than as an assumption. It is a magnificent example of the logical game in which almost everything the competing theory needs is accepted and then on the basis of one simple assumption the desired result is obtained and the opponents are crushed.

However in achieving the labor market dominated equilibrium as the result of market processes, the Patinkin resolution proves too much.

* Patinkin, D., Money, Interest and Prices.
It leaves the neo-classical synthesis with no explanation of how an economy can get by its own processes into an initial unemployment or inflationary position. Once the economy is out of equilibrium the Patinkin resolution shows how equilibrium is established but it cannot generate a disequilibrium.

Furthermore within the world of the Patinkin resolution the appropriate money supply is not the money supply as reported by the Federal Reserve, it is a money supply that is not offset by private debts to the banking system. In many ways the Patinkin resolution operates as if the entire money supply was gold. Gold has a purchasing power which increases as the price level decreases and no unit owes funds to a bank because the bank owns gold. However today's world is not a gold standard world and the gold supply seems to be an awfully small basis upon which to rest the equilibrating tendencies of the economy.
G. The Reduction of the Keynesian Revolution to Banality

A fundamental shortcoming of the neoclassical synthesis is that it does not explain how an economy gets into the unemployment equilibrium from which the real balance effect ultimately effects a rescue. No process operating within the economy ties Pauline to the railroad tracks; only the rescue is acted-out. This short fall exists because of the neoclassical definition of the main problem of economic theory, to show that a decentralized market mechanism yields a coherent result, does not allow for disruptive dynamic processes. Neoclassical theory also assumes that the apparatus constructed in order to show how an economy can be coherent though decentralized can be applied to other questions, which neoclassical theory treats as subsidiary. In particular accumulation and observed differences in well being among economies are explained by applying the theoretical constructs designed to show why an unplanned, decentralized market yields coherent results. Thus the doctrines that household demand brings forth the production of commodities is extended to the treatment of savings: household savings presumably draws forth investment. Questions as to how social arrangements create, extract and use a surplus are foreign to a neoclassical economist.

Within the neoclassical theory, fluctuations, disequilibrium, and financial trauma can only occur because of shocks or changes imposed from outside the system. A great deal of what happens in history is explained as the result of institutional failures in unique historical circumstances. The error of setting the pound at its pre-World War I parity, as well as the ineffectiveness of the Federal Reserve's response to financial trauma, were responsible for Britain's prolonged stagnation and the world's Great
Depression. Neoclassical theory does not recognize that the assertion that the wrong value of the pound caused Britain's difficulties implies a limit to the domain within which the price system is effective and that the very existence of a Central Bank as a "lender of last resort" presupposes that the market mechanism can get into "peculiar positions" in which "normal" functioning financing is not available. If the market mechanism is self-adjusting it is only in a limited domain and it is also from time to time it is self disequilibrating.

Because the neoclassical synthesis does not allow for internal destabilizing forces and has no view of historic time it needs to explain the existence of persistent disequilibrium by processes which block the workings of the equilibrating mechanisms recognized within the system. In particular for the real balance effect to work it is necessary for an excess supply of labor to lead to a fall in money wages and prices. If, because of rigidities and imperfect markets, wages and price do not decline with excess supply, unemployment will persist. This makes the persistence of unemployment the result of perverse behavior by labor and in particular it is the result of a villain, trade unions. From the arguments advanced by some neoclassical economists it seems as if trade unions are the only institutions that stand in the way of achieving economic bliss. Note that the victims of unemployment cause unemployment to persist. The market mechanism not only yields a coherent result but it also yields a vehicle for a just retributive justice.

As the neoclassical synthesis mainly compares positions of equilibrium, the economy's models do not exist in the historic time. Because private financial commitments exist the burden of debt increases with wage and price deflations, and
and a rise of debt burden in the face of price deflation tends to decrease debt financed spending, i.e. investment. Falling investment is an initial reaction to price deflation, not until investment virtually disappears will the money/price level effect upon consumption tend to stabilize and then increase demand. Thus unemployment is likely to become worse before it gets better and it may be worse for an uncomfortably long period. Unless we can identify who gets hurt and for how long, and are willing to say it is good and proper for those who get hurt to "pay the price," it is rather cavalier to assert that the neoclassical mechanism of price deflation should be allowed to operate. If an economy is not doing all that poorly, even if it is doing more poorly than the best possible, then the chance of things getting worse and staying worse if wage and price deflation is tried in an effort to eliminate unemployment quite properly acts as a barrier to using price deflation as a conscious policy.

The real balance effect operates by means of the ratio of money to prices. The path from unemployment to full employment can be by way of increasing the numerator: increasing the relevant quantity. But the relevant quantity of money is either gold, first currency, or government debt (if the interest burden is not passed through). Because the expansionary effect on money holders from ordinary bank balances is offset by a constraining effect upon the households and businesses which have borrowed from banks. Gold can only be obtained by mining or through the foreign exchanges. Mining and the earning of gold on the foreign exchanges has favorable effects upon employment in two ways: one, miner or the producer of exports has a job; secondly, the numerator of the real balance effect increases. Fiat money creation can also have these effects if the government hires
workers or buys goods and services. An increase in government debt that bears interest can also have a real balance effect, if prospective taxes to meet interest payments are not viewed with apprehension by potential taxpayers.

The money value of an existing gold stock can also be increased by revaluing the gold stock, i.e., by devaluation. Usually devaluation takes place in response to pressures from the foreign exchange although during the Great Depression the dollar price of gold was raised in an effort to expand the economy. However, in order to offset the possibility of capital gains from speculations in gold, ownerships of gold was first transferred to the government. Without any private ownership of gold the kicker to consumption that the real balance increase could have produced did not happen.

The neo-classical synthesis — as well as the Keynesian, Hansen and Hicks IS-LM formalizations — views income as a homogeneous glob. No distinction is made between wages and profits, although a distinction is made between gross and net incomes. In this way the need to inquire how the different incomes arise and the effects upon income distribution of different ways of operating the economy can be ignored. Also because income is treated as a homogeneous glob in determining savings and the savings function related saving to income and interest, the question as to how economic and social institutions "force" or "extract" a surplus does not have to be faced.

The main banality of the neo-classical synthesis however lies in the blinder it puts on policy. Theory lends legitimacy to policy. The neo-classical synthesis acts as blinders in that it restricts the legitimate policy options to manipulating government spending and taxation
and operating upon the money supply. Much controversy takes place about details of fiscal actions and whether the Federal Reserve should operate upon the money supply alone or whether it should consider interest rate effects in determining its behavior. To the neo-classical synthesis the pricing of capital-assets in markets where today's views about the future and today's financing possibilities are vital is not an issue for policy. The possibility that the instability so evident in our economy is due to the behavior of financial markets is foreign to the neo-classical synthesis.

The neo-classical synthesis holds out the promise that by manipulating monetary and fiscal policies a close approximation to full employment can be first achieved and then sustained. Furthermore, the neo-classical synthesis also argues that such a close approximation to full employment could be a stable price level situation. The neo-classical synthesis enables economists to ignore industrial structure and income distribution. Prior to the "victory" of the Hansen and Hicks versions of Keynes and continuing with the success of the neo-classical synthesis it was widely held that the structure of industry and finance are largely responsible for the instability exhibited by the economy. The various models based upon the standard interpretation of Keynes as well as the neo-classical synthesis made this view obsolete. It became possible to be conservative on industrial organization and "liberal" on full employment policies.

As instability became evident and as inflation and unemployment co-existed in apparent peace during the late 1960's and early 1970's, it became apparent that the grand neo-classical synthesis did not provide a guide to relevant policy. As usual instead of viewing the theory as
falling short, scapegoats for the shortfalls of the performance of the economy and for the failures of policy were sought. Two "villains" were found: one is trade unions with their pressures for money wage increase and the second was the nature of government programs.

If we are to do better in policy, we have to dig deeper than the neo-classical synthesis permits into the processes at work in our economy.