

---

## Working Paper No. 155

### Uncertainty and the Institutional Structure of Capitalist Economies

by  
Hyman P. Minsky\*

April 1996

\*Distinguished Scholar, The Jerome Levy Economics Institute of Bard College

"There seems to me to be no other economist with whose general way of thinking I feel myself in such general accord."  
John Maynard Keynes<sup>1</sup>

"The agents in the model have a model of the model."  
Peter Albin<sup>2</sup>

"The Scientist has a lot of experience with ignorance and doubt and uncertainty. We take it for granted that it is perfectly consistent to be unsure - that it is possible to live and not know."  
Richard Feynman<sup>3</sup>

#### 1. PRELUDE

Keynes' letter to John R. Commons illustrates the affinity between the economics of Keynes and the American Institutionalists. This affinity is as relevant now as it was when Keynes wrote to Commons:

The current crisis of performance and confidence in the rich capitalist countries make it necessary, once again to think about the institutional prerequisites for successful capitalism.

#### 2. INTRODUCTION

Keynes always stressed the importance of "vigilant observation" for successful theory- construction, theory being nothing more, in this view, than a stylized representation of the dominant tendencies of the time, derived from reflection on the salient facts.<sup>4</sup>

In this view relevant theory is not a compendium of propositions derived from axioms assumed to be universally true: economic theory is not a subdivision of mathematics. Relevant theory is the result of the exercise of imagination and logical powers on observations that are due to experience: it yields propositions about the operation of an actual economy. The current methodological fashion, where artificial economies are first specified, then simulated and finally deemed satisfactory (unsatisfactory) if it can be said that the general characteristics of simulation are similar (dissimilar) to the general characteristics of a time series of constructs based upon observations (such as GNP) would most certainly have been anathema to both Keynes and the Institutionalists of his day.<sup>5</sup>

In today's terminology Keynes' "beliefs" are mental models which lead to propositions about the behavior of the "real world" economy. This approach makes "real world" outcomes dependent upon institutions. It sanctions state interventions to create institutions which lead to an economy with desirable properties. The last act of Keynes' life was his deep involvement in the creation of the World Bank and the International Monetary Fund. Much earlier he proposed institutions which would create what today we might call "capitalism with a human face"<sup>6</sup>, was the aim of the great institutionalist.

I propose to take up four topics:

1) The link between the position of Keynes, in *The Treatise on Probability*,<sup>7</sup> on the nature of inference in the creation of belief and the contemporary view, as exemplified by Thomas J. Sargent in *Bounded Rationality in Macroeconomics*<sup>8</sup>, about the models that enter into decisions once the boundedness of rationality is acknowledged. By accepting the agents need to learn the model of the economy they use in decision making and that the complexity of economic processes and the time-consuming nature of learning means that the agents are never sure of the validity of the models they use the new classical economists have moved towards Keynes' views about uncertainty in *The Treatise in Probability*. Uncertainty viewed the result of the degree of rational belief in the models that underlie action is central to those parts of *The General Theory* in which the determination of the prices of capital and financial assets and of liability structures for financing positions in capital and financial assets are taken up.

Thus a convergence has taken place between the views about uncertainty between the New Classical Economics and the economics of *The General Theory* which focuses upon the need for the full integration of financial and monetary relations in determining what happens in a capitalist economy.<sup>9</sup>

2) Capitalism in the United States is now in a new stage, *money manager* capitalism, in which the proximate owners of a vast proportion of financial instruments are mutual and pension funds. The total return on the portfolio is the only criteria used for judging the performance of the managers of these funds, which translates into an emphasis upon the bottom line in the management of business organizations. It makes the long view a luxury that only companies which are essentially owned by a single individual and which are not deeply dependent upon external financing can afford.

3) Public tolerance for uncertainty is limited. The New Deal restructuring of capitalism created institutions which contained uncertainty. The evolution of the economy has decreased the effectiveness of the New Deal reforms and money manager capitalism increased uncertainty. The creation of new economic institutions which constrain the impact of uncertainty is has radically increased uncertainty. The creation of new economic institutions which constrain the impact of uncertainty is necessary.

4) I conclude with some thoughts about measures which may constrain the insecurity bred by the attenuation of the effectiveness of the New Deal structures along with the heightened uncertainty due to money manager capitalism.

### 3. UNCERTAINTY

By the time Keynes wrote *The General Theory*, he was a man of the city as well as an academic economist. As such the financing of activity and of positions in capital assets, as collected in firms, was central in his thinking.<sup>10</sup>

Business investment in inventory and durable capitalist assets require external financing from banks, other financial institutions or the floating of bonds or shares. This need for external finance imposes a negotiating process between bankers and businessmen on the investment process. This forces agents to acknowledge that ignorance and conjecture enter decisions to create and finance capital assets whose value, once they are in place, depends upon the markets view of their perspective returns over a long horizon. The uncertainty that permeates the economics of Keynes and the economics of bounded rationality is due to the unsureness about the validity of the model of the economy that enters in the decision process. Action involves a suspension of disbelief, by both sides in the negotiations, and economic success foster such a suspension.

Government institution building can be interpreted as creating dimensions to the economy whose behavior is not as uncertain as that of market determined variables. The Bank of England's discount window may well be the paradigm for institution creation which substituted certainty for uncertainty.<sup>11</sup>

The core countries of the capitalist world have not yet had a big depression in the fifty years since the end of World War II. Big government provides insurance against an utter collapse of profit flows and asset prices such as happened between 1929 and 1933.<sup>12</sup>

In *Bounded Rationality in Macroeconomics*, Tom Sargent accepts the critique of rational expectations which holds that the agents in the model have to learn the model that they use in decision making. The "bounded rationality" of the agents means that at any moment of time there is no assurance that the agents are acting on the basis of mutually consistent models such as are needed for the existence of a rational expectation equilibrium. In Sargent's argument "bounded rationality" means that the agents in the economy are unsure about the degree of rational belief that is warranted in the model that they use at any time to guide their action.

Thus, in Sargent's artificial world intractable uncertainty is pervasive because the agents in the model need to learn the properties of the model from experience. The self-seeking agents are uncertain (or unsure) in their knowledge of the economy and they accept that others are also unsure. In practice, Sargent's work aims to extract systematically consistent relations out of situations where uncertainty rules. He seems to ignore an aspect of decision making under uncertainty which Keynes emphasized: the elements determining long-term expectations change so often that what happens in the economy at any date will be contaminated by market conditions that reflect actions determined by mental models that differ from the model that now guides expectation formation and therefore actions.<sup>13</sup>

With the acceptance of bounded rationality, the new classical economics has moved towards an essential analytical aspect of the economics of Keynes: bounded rationality is a different type of beast than the rationality of rational expectation. Both the economics of Keynes and frontier neoclassical macroeconomics allow that agents need to extract the models of the economy which guide their actions out of their experience and their observation of the "world." Because the agents drawing inferences differ in their place in the economy, their history and their ability to generalize and abstract, the models that guide decisions any time are likely to differ, the models are likely to be inconsistent.

Uncertainty (unsureness) is a deep property of decentralized systems in which a myriad of independent agents make decisions whose impacts are aggregated into outcomes that emerge over a range of tomorrows. Uncertainty about what the outcomes will be follows from the uncertainty with which agents hold the model that guides their actions. Agents are not only unsure about the validity of the model that guides their actions, they impute such uncertainty to the other actors in the economy. In the modern world, where governments intervene by way of fiscal and central bank actions, agents in the model impute this same uncertainty about the true nature of the world to the policy agents of the government.<sup>14</sup>

It is now clear that the power of rational expectations in the new classical macroeconomic revolution was derived from the heroic specification of the model that agents use to guide decisions, rather than upon the proposition that agents use "all" of the available information in making decisions and that "all information" takes the form of models (theories) of how the world behaves. The heroic specification was that all agents have a common understanding of the environment within which they operate and that in this commonly understood environment the effect of agents seeking only their own good sustains a general equilibrium. The assumption of rationality of expectations takes the role of Smith's "Invisible Hand" in assuring that equilibrium exists and the commonly understood environment is logically equivalent to the unsatisfactory assumption of perfect foresight in general equilibrium theory.

In both the Keynesian and the new classical economics of bounded rationality the prior history for every agent includes a process by which agents learn the model of the model they use in making decisions. In such a learning process, it is difficult to see how the requirement for rational expectations equilibrium that all agents in the model of the model, can be satisfied. When learning processes are taken into account, the models being used to make decisions at any (every) day are always provisional: they never can be certain final models.

If rational agents doubt the validity of the model that currently guides their actions, then, they stand ready to abandon that model as the behavior of the economy produces data that falsify the model. Whenever a model with a weak degree of belief guides the actions of an agent then, as evidence accrues, initial models are likely to be abandoned and a new set of models be substituted. When this happens, sharp changes in the behavior of agents and of the economy are likely to occur.

Although Keynes and the bounded rationality approaches to uncertainty are similar, fundamental differences remain between them.

One is in the priors of the theorist. Keynes aimed to develop a theory of an economy in which, because of its structure, money cannot be neutral. He achieved this by dividing prices into those which are dominated by the need to recover costs and those which are determined by the value placed upon future income flows. The former consisted of the current outputs of current consumption and investment goods and the later

consisted of the prices of the outstanding financial and capital assets.<sup>15</sup>

The bounded rationality approach retains the assumption that preference systems are over the realms and that outputs and relative prices can be determined independently of monetary and financial variables. The impact of nominal values and financial relations are only of transitory significance.

The Keynesian vision imposes a structure on spending. Consumption and investment spending are different because households consume and firms (or businesses) invest. A modern capitalist economy is structured so that the capital assets of the economy are owned by firms that are organized as corporations, firms finance control over these assets by liabilities, and directly or through intermediaries households own these liabilities. A premise of Keynesian modeling is that the capitalist economy cannot be understood by splitting it into a real and a financial or monetary sector. Keynesian modeling holds that a basic aspect of the structure of capitalist economies is given by interrelated balance sheets, income statements and the time series of cash flows commitments that are embodied in financial instruments.

Keynesian economics emphasizes decisions to undertake and finance investment. In skeletal versions, the pace of investment is viewed as calling the tune for both aggregate income and its distribution, which is viewed as being determined by the structure of demands not by production function characteristics. In modern capitalist economies, complex corporate organizations struggle for market power in order to get an edge in the competition among capitals for profits. In the neoclassical school, even in its most modern forms, it is not clear that the economy under analysis is capitalist.

The economics of Keynes is not a theory for all economies. It is a theory of capitalist economies: the economies for which Keynesian analysis is relevant have firms and these firms often have market power. The labeling of the volume The General Theory was stretching the use of language.

Because of the recognition of uncertainty in the new bounded rationality learning models a partial convergence between the economics of Keynes and the new classical economics has occurred. The differences have narrowed, so that a fruitful discourse may now be possible.

#### **4. MONEY MANAGER CAPITALISM**

##### **A. Evaluation of Financial Structure**

Capitalism is an evolving dynamic system that has come in many forms and even now different forms co-exist. For the United States the financial stages of American capitalism can be characterized as:

- Commercial capitalism
- Industrial capitalism and wild-cat financing
- Financial capitalism and State financing
- Paternalistic, managerial and welfare state capitalism
- Money Manager capitalism

It is enough to say that the evolution has been from a financial structure where external finance was mainly used for trade to an even greater use of market- or institution-based external funds to finance the long-term capital development of the economy. Furthermore, with affluence, the increase in life expectancy and the well nigh complete monetization of incomes the ownership of financial assets has widened. The Great breakdown of 1929-33 led to widespread reforms of the financial structure. The premises underlying the New Deal's restructuring of the American financial system were that the United States was henceforth to be a capitalist economy, corporations were to be the dominant form of business organization, and that in both financial markets and corporate governance the interests of the shareholders were to be dominant. To this end, a doctrine of transparency of both financial markets and corporate governance was developed.

From 1933 through the end of the second World War the main external financing of activity was by the government. As the Levy-Kalecki relations show, massive government deficits lead to large scale business profits. At the end of the war a unique financial structure ruled. For the first time in history, a broad set of households owned financial assets mainly in the form of government debt or as interest in insurance policies and bank deposits which in turn were largely offset by government debt. Business indebtedness was minimal. Many of the great corporations had large net positions in government debts.

Out of this 1946 initial position, money manager capitalism emerged. Characteristics of money manager capitalism are:

- almost all business is organized as corporation
- dominant proportions of liabilities of corporations are held either by financial institutions, such as banks and insurance companies, or by mutual and pension funds
- the intrusion of a new layer of intermediation, the pension and mutual funds, into the financial structure is prevalent
- funds are bound only by contract as to what assets they can own and what activities they can engage in
- the stated aim of fund managers is to maximize the value of the investments of the holders of liabilities
- the performance of a fund and of fund managers is measured by the total return on assets, a combination of dividends and interest received and appreciation in per share value

In seeking the maximum total return, these funds have often provided the equity investment for highly leveraged buy-outs of firms. In addition, because of their "commitment" to maximizing fundholder's value, these funds are well nigh constrained to accept bids for their shares which are at a premium to current market values. They are essential for the environment in which corporate raiders and takeovers exist and in which the conveyance of the assets of the corporate entity to those who take over or even threaten to take over can take place.

The "funds" have made business management especially sensitive to the current stock market valuation of the firm. They are an essential ingredient in accentuation of the predator nature of American capitalism.

Money manager capitalism has led to a heightening of uncertainty at the firm and plant level. In particular, it has made the lot of middle management more unsure. Historic patterns of firm paternalism have often unraveled. There is almost a chronic need to downsize overhead, and to seek out the least expensive variable cost.

A great cheapening of transport and communication costs has lowered the barriers protecting local productions, and increased the pressure on

current operating costs to meet those of "foreign" lands. Even as the natural barriers to trade decreased, the willingness and the ability of management to accept lower profit margins to sustain domestic production has vanished. These factors have decreased the assurance of continued employment by blue collar, white collar and middle management personnel. Even as the aggregate performance of the economy is not bad, individual security has diminished.

## 5. SOCIAL LIMITS TO THE TOLERANCE FOR UNCERTAINTY

We can postulate that the tolerance for uncertainty is limited. The well known insurance phenomena, in which users willingly take an unfair bet in order to protect themselves against large contingent losses can be extended to the domain of uninsurable: uncertainty. When uncertainty leads to an unsatisfactory result then it becomes the general duty of society to protect its citizens against the consequences: a sacrifice of narrow technical efficiency may be called for.

New Deal institutional innovations were designed to attenuate if not to eliminate uncertainty. In some cases this had very positive consequences. The agricultural programs set floors to practices and provided "crop insurance": these measures had effect of setting floors to farmer's incomes. In turn this floor made farmers signatures at banks "good." Financing became available for the mechanization of agriculture and a trend increase in productivity in agriculture followed. The ability to finance investment transformed agriculture.

Big government sets floors to aggregate profit flows. The success of business in the era after World War II was assured by rigging the game in favor of business profits. For a modern capitalist economy to be able to avoid debt deflations and therefore great depressions, governments need to be able to run deficits when the incentive to invest by the business sector is compromised.

## 6. ECONOMIC POLICY AN AGE OF HEIGHTENED UNCERTAINTY

Now and for the foreseeable future the entire world can be expected to be capitalist. There is a need, however, to understand that there is not one unique type of capitalism. As a society we are free to choose the type of capitalism we want.

I accept Henry Simon's view that the aim of economic policy is not narrowly economic. The aim of policy is to assure that the economic prerequisites for sustaining the civil and civilized standards of an open liberal society exists. If amplified, uncertainty and extremes in income maldistribution and social inequality attenuate the economic underpinnings of democracy, then the market behavior that creates these conditions have to be constrained. If it is necessary to give up a bit on market efficiency or aggregate income, in order to contain democracy threatening uncertainty, then, so be it. In particular, there is a need to supplement private incomes with socially provided incomes, so that civility and civic responsibility are promoted.

Even as workers on the job realize that they are becoming ever more productive their price level deflated wage income is falling. In concert with this, they find that the "goods" and "services" they received independently of what their private incomes purchase are deteriorating.

The gross national products of the rich states (United States, Canada, the core countries of the Economic Union, Australia, New Zealand and Japan) are now so high that the continued existence of poverty is evidence of the failure of understanding the way capitalist economies operate and of will to make things better. There is no shortfall of economic capacity to end private poverty and public squalor. The possibilities that this immense richness opens, need to be understood. Private money incomes in the form of wages, salaries, dividends, interest and transfer payments are not the sole source of incomes. We receive some of our "income" in the form of goods and services we pay for with out disposable private money incomes and other parts are independent of our private incomes. These other dimensions are ambience incomes and services rendered to all independent of income. Just as the rich man and the poor were free to sleep under the bridges of Paris, so the rich and the poor are free to enjoy or suffer from the loss of safe streets.

In a world of increased wealth and income, where our common heritage of knowledge has made the potential for satisfactory life so much greater than in earlier ages, the need for community has made the universal provision of high-level health care and education services necessary. Thus there is a great segment of wants that can be best satisfied by an expanded government sector, whether the provider is the locality, the state or the nation. Wide disparities in personal incomes and wealth are compatible with a well functioning society, as long as the ambience, health care and education incomes are available and open to all.

Our rich economy has ample available resources for investment in people and in the material infrastructure of society. The question is not of the resources, but of a willingness to mobilize these resources, i.e. to tax and borrow for such projects. Poverty in the United States is due to an unwillingness to tax. Welfare, in the form of aid to families with dependent children, exist because it is the cheapest way, sort of a policy to let them die, of taking care of the population in want. Foster homes, orphanages and guaranteed work for parents are all more expensive. Full employment is the civilized and humane way of getting rid of welfare as we have known it, but the achievement of a fully employed economy requires a larger and an innovative government sector.

The impact of "Money Market Capitalism" is heightening uncertainty. The wider spread of uncertainty can be offset if there is a willingness of the community to pay a price in the form of a minor "load" on efficiency. Institutional innovations which help offset the impact of uncertainty are needed as the losers in the gamble imposed by uncertainty can become alienated and potential recruits for an alternative to democracy.

Full employment is a way of attenuating uncertainty. The tradeoff between full employment and inflation of the 1960s and 1970s is a result of the particular institutional structure of the time. Once President Reagan broke the air controller strike, the tradeoff relation collapsed.

Full employment required special employment programs of the federal, state and local government. The New Deal programs which provided income in exchange for work that led to community building -- the Works Progress Administration, the Civilian Conservation Corps, and the National Youth Administration -- need to be reconsidered as the basis for social policy in the United States.

The primary interest of government of a national state is the well being of the populus of the national state. The smart government that offsets the aggravated uncertainty associated with money manager capitalism will need adequate resources to support activities and to validate the government debt which accumulates as the contracyclical and even longer deficits accumulate.

Government debt, like any other debt, has to be validated by government revenues. A tax system adequate to support government employment and resource creating activities is needed. The explosion of the government debt relative to gross domestic product over the 12 years of

Reagan-Bush was largely due to an irresponsible fiscal policy, which undermined the revenue system even as it did not reign in government spending, mainly on defense but also on transfer payments. In the present circumstances the role of tax policy is to assure that a downward trend in the ratio of Federal Debt to Gross Domestic Product rules, so that over a span of years the ratio of debt to income is lowered from the present 65% to about 50%.

One feature of the revenue system should be a value added tax and another a transformation of the current income tax into a progressive consumption tax that has broad bands and large per person deduction. Value added in production or distribution is equal to the value added by the services of labor and the value added by the services of the capital assets. The convention in the value added tax is that the tax is added onto the landed price of imports and rebated from the price of exports: the value added tax is a backdoor tariff and export subsidy. A value added tax will have the sales value of imported as well as that of domestic goods cover the social overhead of the economy.

The United States already has a peculiar value added tax in the form of the employer's contribution for Social Security. However, this tax does not have the add on and the rebate provision of the value added tax.

A flat tax uses a large per person exemption to return a constant rate into a moderately progressive result: a better result is achieved if the flat tax is modified by surtaxes on higher incomes. If the flat rate is 20% on the first \$100,000 and 22% on income between \$100,000 and \$500,000 and 30% on incomes over \$2,000,000 a better result is achieved than by the simplistic flat tax.

Each economic unit has an income and manages a portfolio. In various ways we allow payments to the portfolio out of incomes to be exempt from taxes. If we generalize such exemption the income tax is transformed into a consumption tax. Furthermore, we do now pay capital gains taxes on the capital gains that a pension fund makes. The capital gains that accrue over time are taxed when the fund pays out accumulations and "contributions" to finance consumption. We already have comprised the income tax in the direction of a consumption tax.

During the 1992 election campaign, President Clinton advocated a network of Community Development Banks. The idea takes on increasing import because of the heightened uncertainty due to money market capitalism. The attractiveness of small and even micro businesses increases with the uncertainty attached to jobs with firms that are listed and whose future is dependent upon the vagaries of money manager's evaluation. Community development banks should be set up as local holding companies. One aspect should be an investment banking division. <sup>16</sup>

## 7. CONCLUSION

Macroeconomic theory is in flux: the need to accommodate to uncertainty has moved the new classical economics towards the economics of Keynes. With the recognition of uncertainty as a deep attribute of real world economies the simplistic propositions of laissez-faire no longer hold. Economies with the financial system of modern capitalism can implode, as happened between 1929-33.

The big government and the relatively unconstrained central banks of the main capitalist countries have prevented any serious approximation to 1929-33 in the years since World War II, although the performance of the main capitalist economies has deteriorated in the past quarter century from the standard set in the first quarter century after World War II.

There is need for rethinking the system of intervention into capitalist economies that has evolved out of the New Deal structure which was mainly put in place before World War II. In particular, there is a need to make full employment the main goal of economic policy, mainly because a full employment economy is supportive of democracy where as a transfer payments based economy is too often supportive of resentment.

---

## Endnotes

1. Letter to John R. Commons, April 28, 1927 as cited in Robert Skidelsky, *John Maynard Keynes: The Economist as Savior 1920-1937* Penguin Books 1994, p.229.
2. A remark at a Levy Institute Conference.
3. James Gliciek, *Genius, the Life and Science of Richard Feynman*, Vintage Books 1992, p. 171.
4. Robert Skidelsky, *John Maynard Keynes, Volume Two, the Economist as Savior 1920-1937*, p. 221.
5. Michael R. Montgomery, "Fully inarticulate model economies: or, does math equal macro?," *Journal of Post Keynesian Economics*, Fall 1994 Vol 17, No 1.
6. Most clearly in "The End of Laissez-Faire" as reprinted in *Essays in Persuasion, Volume 9 of the Collected Works of John Maynard Keynes*.
7. "A Treatise on Probability," Volume 8, *The Collected Works of John Maynard Keynes*.
8. Thomas J. Sargent, Carendon Press, Oxford 1993.
9. Hyman P. Minsky, *John Maynard Keynes*, Columbia University Press, New York 1975: "Keynes without uncertainty is like Hamlet without the Prince." p. 57 and "In interpreting *The General Theory*" it should be kept in mind that Keynes was first the author of "A Treatise on Probability," p.67
10. In Keynes' time household purchases were constrained by current cash flows, well nigh exclusively in the form of wages, to a much greater extent than is now true. Government debt financing was relevant only time of war.
11. Hyman P. Minsky, "Central Banking and Money Market Changes," *Quarterly Journal of Economics*, May 1957.
12. The way of looking at distribution as determined by the composition of demands that was pioneered by Jerome Levy and Michael Kalecki provides a framework for the dual character of profits in a capitalist economy: profits as the lure for investment and profits as the source of the funds that validate financial instruments that are issued in financing investment. See Michael Kalecki, *Collected Essays on the Dynamics of the Capitalist Economy (1933-1970)*, Cambridge, Cambridge University Press 1971 (chapter 7) and S Jay and David A. Levy, *Profits and the Future of American Society*, New York: Harper and Row, 1983.
13. J.M. Keynes, *General Theory, Volume 7 of the Collected Works of John Maynard Keynes*, p.48.
14. Papadimitriou, Dimitri and L. Randall Wray, *Flying Blind: The Federal Reserve's Experiment With Unobservable*, Jerome Levy Economics Institute of Bard College, Public Policy Brief No. 15, 1994.
15. This leads to the interpretation of liquidity preference as the determination of the price level of capital and financial assets where the prices of money is always 1. Keynesian Theory can be interpreted as a two price level theory in which the quantity of money directly affects the price level of capital and financial assets and the money wage rate directly affects the price level of the current outputs. See Hyman P. Minsky, *John Maynard Keynes and Stabilizing an Unstable Economy*, Yale University Press, 1986.

16. Hyman P. Minsky, Dimitri B. Papadimitriou, Ronnie J. Phillips, and L. Randall Wray, *Community Development Banking: A Proposal to Establish a Nationwide System of Community Development Banks*, The Jerome Levy Economics Institute of Bard College, Public Policy Brief No. 3/1993.