



The Relevance of Hyman Minsky

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The highly regarded economist Hyman Minsky died late last year. His work, however, has never been more relevant than it is today. Robert Pollin offers this summary of his contribution.

Joseph Schumpeter, in his great *History of Economic Analysis*, describes David Ricardo as "the horse that will take hold of the bit, put out its nose, and gallop for what it is worth." Professor Hyman Minsky, who died October 24, 1996, at the age of 77, possessed that same Ricardian energy—a mind that strove purposefully for definite and meaningful conclusions.

Minsky has been the single most important figure in advancing the contemporary post-Keynesian approach to macroeconomics. His academic career spanned nearly fifty years, and he produced scores of important publications, including *John Maynard Keynes* (1975), *Stabilizing an Unstable Economy* (1986), and *Can "It" Happen Again?* (1982), a collection of papers. Additional collections are forthcoming.

In these works, Minsky developed an analytical framework

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that he alternately called the “financial instability hypothesis” or the “Wall Street paradigm.” Within this framework, he devised a “financial” interpretation of Keynes, a thorough critique of mainstream macroeconomics, a theory of investment and endogenous financial instability, a theory of endogenous money, and, most important, an original and fruitful analysis of the problems afflicting contemporary capitalist economies. His work has never been more important than it is in today’s Wall Street-dominated economy.

Minsky described his approach as follows:

The financial instability hypothesis was advanced as an interpretation of Keynes’ General Theory. . . . The conceit is that Keynes was aware of the great contraction and wholesale collapse of the financial and economic system of 1929–33 as he was developing the General Theory. In particular, I assumed that Fischer’s debt-deflation theory of great depressions was known to Keynes.

The financial instability hypothesis is addressed to this economy rather than an abstract economy. Our economy is taken to be a capital-using capitalist economy with complex, sophisticated, and ever-evolving financial institutions and usages. The model focuses on the relations between finance, asset values, and investment. It can be characterized as a Wall Street view of the world: The principal players are profit-seeking bankers and businessmen.

Minsky’s approach lead him in many directions over the macroeconomic landscape. Yet it also lead to one central result that is fundamentally at odds with the mainstream view: Capitalist economies are inherently unstable, and disequilibrium and unemployment are their normal state of affairs. Minsky wrote, “The capitalist market mechanism is flawed in the sense that it does not lead to stable price–full employment equilibrium, and that the basis of the flaw resides in the financial system.”

Minsky’s arguments as to the inherent instability of capitalist finance were largely neglected until the mid-1970s. This was understandable, since the Wall Street-dominated economy Minsky was describing was not readily discernible during the

first twenty-five years after the end of World War II, the so-called Golden Age of Capitalism. This period, between 1945 and 1970, was characterized in the advanced economies by low real interest rates and low levels of financial leveraging, relatively little speculative trading in financial markets, and a degree of financial stability that was historically unprecedented. Extensive government regulation also prevailed during this period, both within domestic economies (i.e., the Glass-Steagall system in the United States) and, through the Bretton Woods system of fixed exchange rates, in the broader realm of international currency markets. Such regulatory structures were generally considered to have made a substantial contribution toward promoting the financial tranquillity that prevailed during the Golden Age.

As the Golden Age faded and was supplanted by what we may term the Leaden Age, which has lasted from around 1970

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to the present, Minsky's approach began to gain an increasingly wide following. In this period, we have seen the return of high levels of financial leveraging and historically high real interest rates, an exponential growth of speculative financial markets, and much more frequent financial crises—the most recent being the December 1995 crisis ignited by the collapse of the Mexican peso. Accompanying these Leaden Age financial patterns has been a worldwide dismantling of financial regulatory controls, again both domestically (i.e., the demise of Glass-Steagall) and internationally (the abandonment of Bretton Woods). The resurgence of speculative financial practices and the decline of

regulatory controls in the Leaden Age also created conditions in which the overriding concerns of financial capitalists about tight money, high interest rates, and low inflation have established the acceptable parameters of economic policy in Western countries.

Minsky's model casts a beacon over this contemporary world, enabling us to see clearly both what is wrong with a Wall Street-dominated economy and the steps to overcome this condition.

Minsky's Theory of Investment: The Role of Uncertainty

As Minsky puts it, his model is a financial theory of investment leading to an investment theory of instability. How does he reach this result? To some extent, Minsky's theory of investment is closely reminiscent of Tobin's "q" theory, which argues that investment will increase when the value of a firm on stock and bond markets exceeds the replacement cost of the firm's assets. But Minsky's model diverges from Tobin's because of its greater emphasis on the importance of finance.

Minsky, like Tobin, develops a model based on two price systems: one for current output and the other for existing assets. The proximate determinants of current output prices are conditions in the product and labor markets, in particular, the mark-up of wages over costs for a given level of productivity. The price of existing capital assets depends on supply and demand. But the supply of existing assets is fixed in the short run, and the proximate determinants of demand are the expected profit yield of an asset and its expected degree of liquidity. As such, the price of existing capital assets is governed by uncertainty over profit flows from any given asset and the ability to sell the asset at face value when desired. One could close the model here, with investment being determined by the ratio of the "objective" variable (current output prices) and the "subjective" variable (the price of existing assets). Up to this point, the model is indeed interchangeable with

Tobin's. But for Minsky, the model is still deficient because it does not yet consider how investment projects will be financed.

In introducing financial determinants in investment, Minsky is, of course, departing completely from the Modigliani-Miller "irrelevance" theorem, which found that, in perfectly competitive markets, a firm's financial structure would have no influence on its value or pattern of investment. Minsky incorporates the influences of borrower's and lender's risks that result when investment is externally financed, risks that are not present with internal finance. These concepts were initially proposed by Keynes as well as Keynes's Polish contemporary Michal Kalecki. Within the Minsky model, these concepts are the conduits for the development of the two central ideas taken from Keynes—*fundamental uncertainty* and the *centrality of financial relations* for transmitting the effects of uncertainty through the economy.

Minsky argues that borrower's risk arises when purchasers of capital assets must finance their investment projects through debt, hence increasing their exposure to default risk. To compensate for their increased risk, borrowers lower the price at which they are willing to purchase the asset. How much will the price of existing assets decline? According to Minsky, this cannot be measured objectively but, rather, depends on the extent of borrowers' leveraging and on how external financing influences borrowers' assessments of project risk and return. The demand price for capital assets will thus fall when asset purchases are debt financed, but by an indeterminate amount.

Lender's risk is incorporated in the terms imposed on borrowers—higher loan rates, shorter terms to maturity, collateral, and restrictions on dividend payouts. These costs will vary directly with the leveraging of the investing firm. But the assessment of how high these costs should be is also subjective, dependent upon various evaluations of both the expected profitability of projects and probability of default for a given degree of leveraging.

Minsky, like Tobin, argues that investment will take place at a level that equates current output prices and existing assets. But, unlike Tobin, Minsky believes that this takes place only after existing asset prices are influenced to an indeterminate degree by borrower's risk and current output is altered by lender's risk.

Hedge, Speculative, and Ponzi Finance

Which factors determine the importance of borrower's and lender's risk in establishing the level of investment? To address that question, Minsky distinguished non-financial firms according to whether they were what he termed *hedge*, *speculative*, or *Ponzi* units.

Hedge units are those whose expected cash flows from operations exceed expected cash commitments at all points into the future. Since cash flows are uncertain, all firms must allow for some variance around the expected levels of these flows. For the

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hedge unit, even the lower limit of the variance of expected cash flow exceeds cash commitments. As such, a hedge unit always carries positive present value. And although it faces some degree of risk, due to investment uncertainty, its viability does not depend on financial market conditions, only on the normal functioning of the product and factor markets from which its cash flows derive.

Speculative units are those for which, at some points in time, cash commitments exceed cash flows. Normally this will occur when repayment of principal is incorporated in cash commitments, a condition typically associated with short-term debt. As such,

speculative units are forced to borrow the difference between cash commitments and cash flows when their short-term loans must be refinanced. As a result, speculative units, unlike hedge units, depend on the normal functioning of financial markets—as well as on the product and labor markets—to remain solvent. If short-term interest rates should rise above expected rates in a period when the firm must borrow, its present value could turn negative and the firm would become insolvent. As a result, the larger the weight of speculative financing in the economy, the greater the importance of containing upward pressure on interest rates.

Finally, for Ponzi units cash commitments are normally greater than expected cash flows at most points in time. As such, these firms normally have to borrow to pay interest as well as principal on cash commitments. Ponzi units can be economically productive: They might include firms whose earnings are highly seasonal or firms that depend heavily on take-out financing to undertake investment projects. But this category also includes firms whose assets yield little or no income and whose owners expect large capital gains at some unknown date. Ponzi units are heavily dependent on the continuous sale of debt and are therefore even more exposed to the vagaries of money markets than speculative units. As such, Ponzi units should also carry large supplies of liquid assets to get them through periods of money market difficulties. Whether they will or not depends on how “Ponzi” the unit really is. Certainly Charles Ponzi did not concern himself excessively with the size of his liquid reserves.

Overall, the higher the proportion of speculative and Ponzi financial units, the greater the fragility of the economy. Fragility in the Minskian sense, then, has two components. First, the economy becomes less capable of absorbing shocks, so shocks are more likely to induce a financial crisis and incipient debt deflation. But, the degree of borrower’s and lender’s risk also rises; this should inhibit the growth of debt-financed investment activity.

Systemic Instability and the Limits of Stabilization Policy

What determines the proportions of hedge, speculative, and Ponzi units, and thus the degree of financial fragility? Here is where the dynamic component of Minsky's model emerges. Minsky argues that there is an inherent tendency for capitalist financial structures to move from states of robustness to fragility over time. This is due to the shift in expectations that occurs over the course of a business cycle and the way this shift is transmitted through the financial system (so that, again, finance and uncertainty are the central elements of the argument).

At the trough of a business cycle, realized profits and profit expectations are both low. At the same time, the financial structure is robust, since the debt deflations that would have accompanied the previous downturn have brought a high proportion of overleveraged units to bankruptcy. As the economy ascends from the trough, profits begin to rise. But expectations are still low because of memories of the trough, and lenders' and borrowers' risks are correspondingly high.

Financing patterns thus remain relatively cautious. However, as the upturn continues and realized profits exceed expectations, expectations shift upward. Animal spirits are ignited, and firms are more willing to borrow in the pursuit of profit opportunities. In these circumstances, even more cautious firms feel pressure either to pursue all apparent profit opportunities or to forfeit them to competitors.

As full employment is approached, "euphoric expectations" take hold. The growth rate of debt exceeds that of profits, since for a given distribution of income between wages and profits, profit opportunities are constrained by the growth of productivity, whereas the extension of credit is not so constrained. The financial structure thus becomes increasingly fragile—that is,

vulnerable to an interactive debt deflation that induces a downturn. In addition, banks and other lending institutions generally accommodate, and even aggressively promote, the growing demand for credit. Their expectations may have shifted upward as well. But more important, they do not generally refuse loan requests by large-scale solvent customers.

Minsky concludes that a period of full employment is not a natural equilibrium point for a capitalist economy. Rather, it is a transitory moment in a cycle, one that in turn leads to overheating and increasing financial fragility. In the absence of government intervention, the market economy thus proceeds normally from a cyclical trough to an unsustainable boom characterized by

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speculative financial behavior. The cycle culminates in a debt deflation and depression. But the depression itself creates the conditions for a return to financial robustness and recovery. Thus—and here Minsky's position is perfectly consistent with that of Schumpeter and Marx—*depressions are functional*. They are the destructive but necessary mechanism—the “slaughtering of capital values,” as Marx put it—that returns capitalist financial structures to balance. In other words, depressions bring benefits as well as costs to unregulated market economies. To recognize such benefits in no way minimizes the costs; that such “slaughtering of capital values” is necessary to control a free market economy's natural tendency toward fragility stands as a powerful indictment of the system.

In the wake of the 1930s Depression, the challenge for

economists—especially those, such as Keynes, who recognized capitalism’s weaknesses but opposed its demise—was to reduce the costs of controlling the destabilization of financial market behavior (i.e., to supplant the slaughter of capital values as a stabilization mechanism). Thus was born the post-World War II system of big-government capitalism, with its accompanying instruments of macroeconomic management. Minsky argues that federal deficit spending and lender-of-last-resort interventions by the Federal Reserve—two instruments of big-government capitalism—have been extremely effective in preventing the recurrence of depressions.

Minsky argues that the effect of deficit spending during a downturn is to establish a floor for profits. He derives this by applying Kalecki’s well-known accounting identity wherein, in a closed economy, profits equal investment plus the government deficit. Running deficits in the initial phases of a downturn will therefore stabilize profits. More favorable profit expectations in turn encourage investors, which should then reverse the downturn. At the same time, lender-of-last-resort interventions are able to counteract the liquidity shortages of distressed financial firms. It is through exercising these powerful policies that Minsky believes debt deflations and depressions are avoidable in contemporary advanced capitalist economies.

But here is the crux of what my colleague Gary DymSKI and I have elsewhere termed “the Minsky paradox.” Minsky argues that solving the problem of debt deflations by no means implies that interventionist policies can promote full employment equilibrium. Rather, Minsky claims that interventionist policies validate the existing fragile financial structure: Problems emerging out of the existing structure are allowed to continue and even deepen. It is therefore perfectly rational for market participants to pursue risky financial practices even as the level of financial fragility rises. This is because, through deficit spending and lender-of-last-resort inter-

ventions, the potential costs associated with risky financial practices are, to a considerable extent, socialized—the government rather than private firms absorbs these costs. Indeed, the socialization of financial market risk promotes fragility. Minsky writes:

Once borrowers and lenders recognize that the downside instability of profits has decreased there will be an increase in the willingness and ability of business and bankers to debt-finance. If the cash flows to validate debt are virtually guaranteed by the profit implications of big government then debt-financing of positions in capital assets is encouraged. (1986, p. 213)

Thus, the effectiveness of depression-prevention policies will deteriorate over time: Government policy is called on increasingly to bail out the fragile system and thereby avoid a depression, but this very policy encourages more fragility and thus increases the burdens placed on future policy interventions. Larger and more frequent interventions become necessary to fend off debt deflations and depressions. The costs of policy interventions rise while their benefits diminish.

Endogenous Money and the Limitations of Central Bank Policy

This model immediately raises a question: Non-financial corporations and their financiers may be afflicted with euphoric expectations, but what about central bankers? Why can't they simply rein in borrowing growth through the normal tools of monetary policy?

According to Minsky, financial markets are essentially demand driven because of non-financial corporations' inevitable attraction toward speculative finance and the supportive posture of private banks. But what if private banks do not have adequate reserves to meet loan demand? This is the question Minsky addresses in his work on money supply endogeneity, which originated with one of

his first published papers, "Central Banking and Money Market Changes" (1957, included in the 1982 collection).

The central bank, of course, sometimes accommodates rising credit demand through open-market operations that increase the supply of non-borrowed reserves. However, it will sometimes choose not to accommodate, particularly when it is compelled to restrain inflationary pressures. When the central bank restricts reserve growth, banks with insufficient reserves who wish to meet credit demand can borrow either from the central bank's discount window or on the private money market. Because of the high

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"frown costs" associated with discount window borrowing, banks generally opt to raise funds from the money market. On the money market, financial institutions with excess reserves will lend to those with reserve shortages, either through repurchase agreements, the federal funds market, certificates of deposit, the Eurodollar market, or some similar avenue—that is, through a variety of asset and liability management practices. It is easy to understand how a single institution could meet its reserve needs in this way. However, whether rising credit demand in the aggregate can be accommodated through the private money market is another question. Minsky argues that through increases in the velocity of circulation, rising credit demand can be satisfied to a considerable degree within the private money market. Asset and liability management is the vehicle through which velocity increases. Such practices involve a shift in banks' balance sheets—for example, a shift from demand deposit holdings (which carry low

interest costs but high reserve requirements) into CDs, Eurodollars, and federal funds (which carry higher interest costs but lower reserve requirements). As bank liabilities shift into the money market, the aggregate supply of loanable funds rises, even when the Federal Reserve restricts the growth of non-borrowed reserves.

Initially, this sort of liability shifting will cause interest rates to rise, as the interest rates on bank liabilities climb and as banks maintain their interest spread and pass along these higher borrowing costs to non-financial borrowers. However, such upward pressure on interest rates is itself an unstable market condition. This is because the upward interest rate pressure can spur financial innovation. When successful, financial innovation allows banks to procure a substantial volume of liabilities through new institutional channels, in which transaction costs of interbank lending have fallen. In other words, innovation produces a new institutional environment wherein rates on managed liabilities need not rise, even if the central bank continues to constrain non-borrowed reserve growth. Minsky's initial paper on the subject documented the early development of post-World War II liability management in the markets for repurchase agreements and federal funds, concluding that, through such innovations, the money market could always stretch the limits of liquidity in a boom.

However, Minsky emphasizes as well that this endogenous reserve generation process will not necessarily create a fully adequate supply of loan funds: "These institutional changes may not lead to a sufficient increase in financing ability to effect the same increase in financing as would have occurred if there had been no central bank constraint" (1982, p. 171). When the money markets cannot sufficiently increase credit supply, a liquidity shortage emerges: Intermediaries may be forced to call in loans and sell assets to meet their reserve needs and the extension of new loans will diminish. These conditions will contribute to financial fragility and may even detonate a financial crisis.

From this framework, it is evident that central bank intervention can influence the character of the endogenous thrust toward instability but cannot contain or reverse this process. Under a fully accommodative central bank, cash commitments rise at the pace set by the private market. This accommodative posture encourages interest-rate stability. At the same time, however, the increased loan riskiness associated with rising cash commitments relative to cash flows may cause interest rates to rise even in an accommodative environment. If central bank policy is restrictive, interest rates will rise more sharply and velocity will also accelerate, encouraging innovation in turn. In short, financial market turbulence will gain momentum whether or not the Federal Reserve chooses a restrictive or accommodative policy. But the behavior of interest rates and velocity as well as the rate of institutional change will vary with the central bank's policy choices.

The Contemporary U.S. Economy

To evaluate Minsky's usefulness for understanding the real world, we must look to the U.S. economy during the post-World War II era, in particular the transition from Golden Age to Lead Age capitalism. Virtually all of Minsky's empirical writings are concerned with this historical process in the contemporary United States and, to a large extent, his theoretical models presuppose the U.S. institutional framework.

According to Minsky, the U.S. economy emerged out of the Depression and World War II with a highly robust financial structure. The Depression had bankrupted the weakest financial units. During the war, moreover, war-related federal government borrowing grew rapidly, while private-sector borrowing was restricted. Thus, in the early post-war years, non-financial firms were predominantly hedge units, and financial asset holders carried largely non-defaultable federal government debt. In Minsky's view, this

explains the basic Golden Age patterns of vigorous economic growth and mild business cycles, as well as the broad consensus view that financial crises were relics of the pre-Keynesian past.

However, this phase of financial robustness gradually yielded to the Leaden Age patterns of persistent instability. This occurred, according to Minsky, because the successes of the Golden Age bred a disregard for the possibility of failure. In 1966, the United States experienced its first post-war financial crisis, the "credit crunch" associated with the squeeze on profits, higher interest rates, and the Federal Reserve's decision not to raise the Regulation Q ceiling interest rate. For Minsky, this event signaled a new post-war phase, in which the financial structure could be characterized as having migrated well into the region of fragility.

Thus, as Minsky pointed out many times, beginning in the mid-1960s, we observe rising leverage rates for non-financial firms, corresponding to a rise in the overall rate cash commitments to cash flows. Moreover, during this same period, we see the process of financial innovation gather relentless momentum, circumventing and then rendering ineffectual the Glass-Steagall system of financial regulation created during the Depression. The monetary decontrol legislation of 1980 and 1982 largely formalized the by-then effective collapse of the financial regulatory structure. In addition, financial crises have recurred regularly since the 1966 credit crunch—in 1970 (Penn Central), 1974 (Franklin National), 1980 (silver market), 1982 (Mexico), 1984 (Continental Illinois), 1987 (stock market), 1989 (junk bonds, stock market, savings and loans), and 1995 (Mexico again).

Minsky emphasized that these Leaden Age patterns were not merely cyclical swings alternating between periods of rising fragility, debt deflation, and the gradual return to robustness. This is because deficit spending and lender-of-last-resort policies have prevented full-scale debt deflations in the contemporary period. But in the absence of a full-scale debt deflation, the movement

toward increasing fragility has become a persistent trend, transforming the most basic structural parameters of the U.S. economy.

Thus, for example, market participants now trade more than \$100 worth of stocks and bonds for every dollar raised for investment in new plants and equipment, which is three times the proportion of turnover to investment that prevailed in the 1960s. Yet, over the last full business cycle (1982–90), the internal funds held by non-financial corporations were fully sufficient to finance *all* their investment in plant and equipment: In the aggregate, financial market trading did not supply *any* of the funds needed for investment. At the same time, the concerns of Wall Street—in particular its obsession with even the smallest signs of impending inflationary pressures, such as any increase whatsoever in average real wage rates—now defines the limits of acceptable policy options in the United States. This was thoroughly and depressingly documented in Bob Woodward's *The Agenda*, which reported how, in December 1992, President-elect Bill Clinton abandoned his campaign commitment to an expansionary agenda when Alan Greenspan, Robert Rubin, and others convinced him that Wall Street would fight it tooth and nail.

Enhancing the Effectiveness of Big-Government Capitalism

Minsky once wrote, "I feel more confident as a diagnostician than as a prescriber of remedies." Only infrequently did he plunge into the details of policy analysis, most fully in the last section of *Stabilizing an Unstable Economy*, which he called "An Agenda for Reform." Nevertheless, both in this discussion and elsewhere in his writings he was clear about the most important policy implications of his analytic approach.

The first crucial point of his analysis was that post-World War

II “big-government capitalism” has been a major success because it strengthened the most important tools—deficit spending and lender-of-last-resort policies—for preventing economy-wide debt deflations and 1930s-style depressions. Maintaining an effective big government must therefore be the first aim of policy. But big-government capitalism still needs to create effective mechanisms for preventing overheated financial markets and persistent inflationary pressures, particularly as full employment is approached. How to attain this elusive end?

To begin with, we need to know how large “big government” must be to maintain its capacity to prevent depressions. Minsky argued that the federal government should be just large enough to offset swings in private investment, and therefore it should be roughly the same size as the economy’s level of private investment. For the contemporary United States this means that the

To maintain its capacity to prevent depressions, the federal government needs to be just large enough to offset swings in private investment, and therefore it should be roughly the same size as the economy’s level of private investment.

federal government should be maintained at roughly its current size of 20 percent of GDP. Within this framework of big-government capitalism, Minsky, like Keynes before him, held that market mechanisms could then be relied upon to determine the details of outputs and prices.

Minsky, finally, was not soft on fiscal deficits (nor, for that matter, was Keynes before him). A crucial component of Minsky’s agenda is that the fiscal posture of big government should be in balance over the course of business cycles. This is necessary for

government fiscal policy to serve as an effective countercyclical tool—that is, being capable of running deficits with strong expansionary impulses during downswings, but also, equally important, running surpluses that can effectively cool the economy when full employment is achieved and speculative pressures are building. Indeed, for big government to have the capacity to run surpluses at full employment was a major means that Minsky saw for controlling upward explosions.

Minsky proceeds in *Stabilizing an Unstable Economy* to consider the details of what should be included in the federal spending, as well as the most effective taxation policies for maintaining government at this size consistent with efficiency and sustaining full employment. He also considers the specifics of policies for regulating the financial system and giant non-financial corporations. The main point in these discussions, however, is not the details of his proposals but the framework in which he advances them. At the end of *Stabilizing an Unstable Economy*, Minsky wrote:

The policy failures since the mid-1960s are related to the banality of orthodox economic analysis. . . . The essential Keynesian result, that capitalism is flawed mainly because it handles capital poorly, nowhere enlightens current policy actions. . . . Once we recognize and accept the fact that a government that is big enough to constrain fluctuations in aggregate profits is a prerequisite for a successful capitalist economy, the economy can be restructured to remove barriers to competition and simplify liability structures. Only an economics that is critical of capitalism can be a guide to a successful policy for capitalism. (p. 332)

Since the late 1970s, Minsky's writings have spawned a substantial literature within the field of financial macroeconomics. Such efforts have been highly fruitful even while, inevitably, this work of critical assessment and extension has pointed to weaknesses in Minsky's original contributions. For example, many critics have correctly pointed to his lack of clarity as to whether his approach can be generalized to countries, such as Germany, France, and Ja-

pan, in which the financial and productive systems have been much more closely integrated. More generally, Minsky himself did not provide adequate analytic or empirical underpinnings to many features of his model. But, most seriously in my view, Minsky's Wall Street paradigm provides an overly constricted view of the basic characteristics of a modern capitalist economy, that fails to consider the defects of capitalism to be found outside Wall Street, in particular, the unequal distribution of income, wealth, and power. Of course, the causes of inequality transcend the financial interrelationships that we associate with Wall Street. But even to understand Wall Street itself, the effects of inequality need to be explored more carefully than Minsky attempted.

This is all to say that Minsky made fundamental contributions to modern economics but, as with all major figures, in an incomplete form. He advanced new ideas and took risks, and one should never expect original thinking to emerge finely honed and neatly packaged. As Joan Robinson once observed, only plodding minds go step by step, being careful to avoid slips; original thinkers stride along, leaving a paper trail of mistakes behind them. Minsky's bold vision of post-Keynesian macroeconomics almost single-handedly forced those who would listen to recognize the centrality of finance—for the development of Keynesianism and, more broadly, for the building of relevant macroeconomic models. As such, he deepened our understanding of the most basic elements of contemporary economic life—unemployment, inflation, stagflation, business cycles, fiscal policy, the role of central banks, and, of course, the problems of financial instability and crises. Because Minsky pushed his vision so forcefully, one can also readily follow his paper trail of mistakes.

We live in curious economic times, in which the slogans of free market economics remain dominant even as the devastating social effects of Reaganism, Thatcherism, International Monetary Fund/World Bank structural adjustment programs, and East Eu-

ropean free-market shock therapy are no longer matters for speculation. Financial deregulation and the embrace of ever more sophisticated stock, bond, and derivative markets is widely regarded as crucial to the modernization of both developed and developing economies. But economic thinking will inevitably shift, as the demand will spread for economic perspectives capable of combining market efficiency with stability, social equity, and full employment. The works of Hyman Minsky will then stand as a challenging guide to a more humane economic future.

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