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WHAT SHOULD BANKS DO?
A MINSKYAN ANALYSIS

L. RANDALL WRAY

Contents

3 **Preface**
Dimitri B. Papadimitriou

4 **What Should Banks Do?**
L. Randall Wray

19 **About the Author**

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Preface

In this new brief, Senior Scholar L. Randall Wray examines the later works of Hyman P. Minsky, with a focus on Minsky's general approach to financial institutions and policy. Minsky insisted that the proper role of the financial system was to create a financial structure conducive to economic development that would improve living standards.

According to Minsky, a capitalist economy can be described as a set of interrelated balance sheets and income statements. All economic units—households, firms, financial institutions, and governments—take asset positions by issuing liabilities with margins of safety related to income, net worth, and liquidity. In terms of financial institutions, he distinguished between traditional commercial banking, investment banking, universal banking, and public holding company models. Commercial banks can "force" a surplus in order to generate gross capital income (profits plus interest), and promote capital development by financing the wage bill of workers in the investment-goods sector. An investment bank provides the external finance needed to place capital goods into the hands of the entrepreneur or market. A universal bank combines commercial and investment banking functions (both short-term lending and long-term funding), while a public holding company owns various types of financial firms that are separated by firewalls.

The layering of financial commitments on top of income-producing real assets created a new kind of capitalism, one in which ownership positions need to be continually validated. That phase of capitalism—what Minsky called "finance capitalism"—imploded in the Great Depression. The government was too small to offset the collapse of gross capital income that followed the Great Crash of 1929. After World War II, a new stage of capitalism emerged—managerial welfare-state capitalism—with a government so large that its deficit could expand sufficiently in a downturn to offset the swing of investment. In addition, we had an array of New Deal reforms that strengthened the financial system, separating investment banks from commercial banks and putting in place government guarantees such as deposit insurance.

But, as Minsky observed, stability is destabilizing: the relatively high rate of economic growth, plus the relative stability of the financial system, encouraged innovations that, over time, subverted the New Deal constraints. Financial wealth (and private debt) grew on trend, producing immense sums of money under professional management. Minsky called this stage, where we are today, the "money manager" phase of capitalism. Here, the real problem is the erosion of underwriting standards, combined with the government's endorsement of private obligations. The investment banks are like huge hedge funds, but now with bank charters giving them access to the Fed's discount window and to FDIC insurance. The demise of commercial banking and simultaneous rise of shadow banking was largely a consequence of this transition to money manager capitalism.

In Minsky's view, deregulation was secondary to market factors in transforming the financial sector. With help from the government, power was consolidated in a handful of huge firms that provided the four main financial services: commercial banking, payments services, investment banking, and mortgages. Brokers didn't have a fiduciary responsibility to act in their clients' best interests, while financial institutions bet against households, firms, and governments. By the early 2000s, says Wray, banking had strayed far from the (Minskyan) notion that it should promote "capital development" of the economy.

Minsky insisted that banking reforms account for accelerated innovation in both financial intermediation (i.e., relationship banking) and the payments mechanism. He advocated government policies to support a network of small community development banks that would provide a full range of services. Policy should also move to make the payments system a profit center, so that banks can compete with money funds. And opening the discount window to provide an elastic supply of reserve funding, to a broad spectrum of financial institutions, would ensure that banks could finance positions in as many assets as they desired, at the target funds rate. If the Fed had lent reserves without limit when the crisis hit, says Wray, it is probable that the liquidity crisis could have been resolved more quickly.

As always, I welcome your comments.

Dimitri B. Papadimitriou, *President*
September 2010

Introduction

Before we can reform the financial system, we need to understand what banks do; or, better, what banks *should* do. This brief examines the later work of Hyman Minsky at the Levy Institute on his project titled "Reconstituting the United States' Financial Structure." This led to a number of Levy working papers and also to a draft book manuscript that was incomplete at the time of Minsky's death in 1996. Much of this work was devoted to his thoughts on the role that banks do play and should play in the economy. To put it as succinctly as possible, Minsky always insisted that the proper role of the financial system is to promote the "capital development" of the economy. By this he did not simply mean that banks should finance investment in physical capital. Rather, he was concerned with creating a financial structure that would be conducive to economic development to improve living standards, broadly defined.

In many of his writings associated with this project, Minsky emphasized six main points: (1) a capitalist economy is a financial system; (2) neoclassical economics is not useful because it denies that the financial system matters; (3) the financial structure has become much more fragile; (4) this fragility makes stagnation or even a deep depression possible; (5) a stagnant capitalist economy will not promote capital development; (6) however, a stagnant capitalist economy can be avoided by apt reform of the financial structure in conjunction with apt use of the government's fiscal powers.

Central to his argument is the understanding of banking that Minsky developed over his career. Just as the financial system changed (and with it, the capitalist economy), Minsky's views evolved. In this brief I focus on his papers and manuscripts from 1992 to 1996 and his last major contribution, his Veblen-Commons Award–winning paper on the institutional structure of capitalist economies (Minsky 1996). I focus on Minsky's overall approach to financial institutions and policy and his general recommendations; I do not provide specific suggestions for policy reform.

What Do Banks Do?

According to Minsky (1992a, 12), "A capitalist economy can be described by a set of interrelated balance sheets and income statements." The assets on a balance sheet are either financial or real, held to yield income or to be sold or pledged. The liabilities represent a prior commitment to make payments on demand, on a specified date, or when some contingency occurs. Assets and liabilities are denominated in the money of account, and the excess of the value of assets over the value of liabilities is counted as nominal net worth. All economic units—households, firms, financial institutions, governments—take positions in assets by issuing liabilities, with margins of safety maintained for protection. One such margin is the excess of expected asset income above the payment commitments entailed in the liabilities. Another is net worth: for a given expected income stream, the greater the value of assets relative to liabilities, the greater the margin of safety. And still another is the liquidity of the position: if assets can be sold quickly or pledged as collateral in a loan, the margin of safety is bigger. (Of course, in the aggregate, all financial assets and liabilities net to zero, with only real assets representing aggregate net worth.) These three types of safety margins are individually important. They are also complementary: one is not a substitute for another.

If the time duration of assets exceeds that of liabilities for any unit, then positions must be continually refinanced. This requires "the normal functioning of various markets, including dependable fall-back markets in case the usual refinancing channels break down or become 'too' expensive" (Minsky 1992a, 14). If disruption occurs, economic units that require continual access to refinancing will try to "make position" by "selling out position"—that is, selling assets to meet cash commitments. Since assets and liabilities net to zero, the dynamic of a generalized sell-off is to drive asset prices toward zero, what Irving Fisher called a debt deflation process. Specialist financial institutions can try to protect markets by standing ready to purchase or lend against assets, preventing prices from falling. However, they will be overwhelmed by a contagion, and thus close up shop and refuse to provide finance. For this reason, central bank interventions are required to protect at least some financial institutions by temporarily providing finance through lender-of-last-resort facilities. As the creator of the high-powered money, only the government—the central bank plus the treasury—can purchase or lend against assets without limit, providing an infinitely elastic supply of high-powered funds.

These general statements are applicable to all kinds of economic units—which is what Minsky meant by saying that any unit could be analyzed as if it were a "bank," taking positions by issuing debt. Financial institutions are special in that they operate with very high leverage ratios: for every dollar of assets, they might issue 95 cents of liabilities; their positions in assets

really *are* "financed" positions. Further, some kinds of financial institutions specialize in taking positions in longer-term financial assets while issuing short-term liabilities—that is, they intentionally put themselves in the position of continually requiring refinancing. An extreme example would be an early 1980s–era thrift institution that holds 30-year fixed-rate mortgages while issuing demand deposits. Such an institution requires continual access to refinancing on favorable terms because the interest rate it earns is fixed, and because it cannot easily sell assets. This can be described as an illiquid position that requires access to a source of liquidity—either a Federal Home Loan Bank or the Fed.

Still other kinds of financial institutions specialize in arranging finance by placing equities or debt into portfolios using markets. They typically rely on fee rather than interest income. In normal circumstances, they do not hold these assets directly; however, if markets become disorderly, they can get stuck with assets they cannot sell (at prices they have promised), and thus need access to financing of their inventories of stocks and bonds. Some might hold and trade assets for their own account, earning income and capital gains, or they might do so for clients.

Among these various types of financial institutions, Minsky distinguished between traditional commercial banking, investment banking, universal banking, and the public holding company model. A traditional commercial bank makes only short-term loans that are collateralized by goods in production and distribution. The loans are made good as soon as the goods are sold—this is the model supporters of the "real bills" doctrine had in mind (Minsky 1992c). The bank's position is financed through the issue of short-term liabilities such as demand and savings deposits (or, in the 19th century, banknotes). The connection among the bank, the "money supply," and real production is close—the sort of relation the quantity theory of money supposed. Essentially, the firm borrows to pay wages and purchase raw materials, with the bank advancing demand deposits received by workers and suppliers. When the finished goods are sold, firms are able to repay their loans. Banks charge higher interest on loans than they pay on deposits, with the net interest margin supplying bank profits.

After World War II, banks commonly charged fees for managing deposits—this helped fund the payments system. However, innovation and competition with shadow banks forced interest payments on deposit accounts, reducing bank profits, as banks not only had to pay interest on their liabilities but also had to operate a costly payments system. This helps to explain the high leverage ratio of banking: to keep the differential between loan and deposit rates low, the bank needs a high asset-to-capital ratio in order to earn an acceptable profit rate on owner's equity. Alternatively, banks would need to make the payments system a profitable operation, charging fees for deposit accounts and payments. However, if viable alternatives exist—such as cash or checkable deposits at shadow banks—there will be limits to banks' ability to squeeze a profit from the payments system. High bank leverage is the trade-off for keeping interest rate differentials low.

If deposits are to maintain parity (with one another and with cash), losses on assets must be very small, since a commercial bank's equity must absorb all asset value reductions. The commercial banker's duty is to be skeptical; Minsky loved to repeat the banker's cliché, "I've never seen a pro forma I didn't like." In other words, borrowers will always present a favorable view of their prospects—which is why careful underwriting is essential. While it is true that loans can be made against collateral (e.g., the goods in the process of production and distribution), a successful bank would almost never be forced to take the collateral. A bank should not operate like a pawnshop. As Martin Mayer (2010) points out, banking has always been a business where profits come over time, as borrowers pay principal and interest. He alludes to the *morality* of a loan officer, whose success depends on the success of the borrower. It goes without saying that betting on the failure of one's borrower is inimical to the duties of a commercial bank.

Minsky made a subtle but very important point regarding the ability of the commercial bank to "force" a surplus, whence comes gross capital income (profits plus interest). If we take the simplest economy, the commercial bank finances the total wage bill by extending loans and creating deposits. Only a portion of the wages will be paid to workers producing goods for the consumer market—what we can call wage goods. The other portion is paid to workers producing investment goods—workers who will spend their income on wage goods. The producers of wage goods will thus receive gross profits equal to the wages paid in the investment goods sector. While it appears to any single firm that its profits are attributable to entrepreneurial finesse (good management and marketing, market power, productivity of its labor and capital, and so on), this can only determine the distribution of profits among firms. If investment goods are not produced, there will be no aggregate profits (since one firm's profits are equal to the losses of other firms). In conditions of depressed expectations of future profitability, investment collapses and so

does aggregate profit, because workers in the investment sector will lose their jobs.

The banker holds the key—he is the "ephor of capitalism," as Minsky's original dissertation adviser, Josef Schumpeter, put it—because not only do entrepreneurs have to be sufficiently optimistic to invest, they must also find a banker willing to advance the wage bill to produce investment output. Note that this ability to force a surplus (and to accumulate capital) is separate from the issue of financing ownership of capital goods. As mentioned above, the fundamental purpose of a financial system is to support the capital development of the economy. By financing the wage bill of workers in the investment goods sector, commercial banks are promoting the capital development of the economy, even if they do not actually provide finance for position taking in investment goods. Hence, we can separate the issue of producing capital goods from ownership of them. For Schumpeter, and for Minsky, the "ephor of capitalism" breaks the circuit of production and consumption of wage goods, in which banks simply finance the production of consumer goods by workers whose consumption exactly exhausts the wage bill required to produce those goods. In other words, the ephor allows the generation of profits by financing the spending of those not directly involved in producing the goods. These profits are "saved" in the form of accumulated capital goods.

In the pre-1870 period that Minsky called the "commercial capitalism" stage, investment goods were owned directly by individual entrepreneurs and purchased out of accumulated savings (from profits). In the next stage, "finance capitalism," capital goods had become too expensive for individual ownership, so the corporate form emerged. External finance in the form of shares and bonds financed the ownership of capital assets. This led to the second type of bank, the investment bank. The function of an investment bank is to provide the external finance needed to put the produced capital goods into the hands of the entrepreneur. Using our simple model, the investment bank intermediates between recipients of the financial surplus created in production (by the spending of workers in the investment sector) and the entrepreneur who wishes to hold the produced capital goods. Note that while this is often framed as an intermediation between "savers and investors," it should not be interpreted as "saving finances investment": the saving (out of profits) is actually created by the production of the investment goods and the subsequent consumption by workers from the investment sector. In other words, this is about financing ownership, not production, of the capital goods. Of course, the production of investment goods does not normally occur unless it is fairly certain that they will be sold; capital goods are typically produced on order for an entrepreneur who has already obtained a commitment from an investment bank to provide finance once the goods are ready.

For illustrative purposes, we can distinguish between two investment banking models. In the first, the investment bank holds the equities and bonds issued by the corporation that requires financing of its capital stock. The investment bank in turn finances its position by issuing debt and shares held by households. If the investment bank's debt is shorter term than the assets it holds, it must be able to refinance its position as discussed above. Mayer's aphorism still applies: the investment bank will be successful only to the extent that its corporate borrowers are successful. Alternatively, the investment bank simply places the debt and equity of corporations into household portfolios. This model of investment banking does not require borrower success; rather than asking whether the borrower will repay the loan, this investment banker only worries whether she can sell the stocks and bonds she needs to place. Underwriting is no longer an essential activity—indeed, careful underwriting can be ensured only if the households that purchase the debt and equity marketed by the investment bank have recourse.

Of course, investment banks can combine both models, by owning only the equities and bonds that households do not wish to hold. Today in the United States, households for the most part hold the bonds and equity of firms only indirectly, through professionally managed funds:

> Most households that own wealth own it in the form of interests in funds, mutual, pension, money market, trust, and insurance reserves, and these funds are the major holder of the liabilities of the largest companies. As a result of the vast accumulations in these funds a new type of financial capitalism has emerged. The managers of such funds are mainly interested in what has been called total returns, which are short-term returns of dividends and the change in the values in the market of the securities. The various manias, from conglomeration to leveraged buyouts, that have swept capitalism in the past years have reflected the power of these funds. Let us call the 1990s version of the capital market/commercial bank financial structure money manager capitalism. (Minsky 1992c, 37–38)

(We will return to Minsky's concept of money manager capitalism below.)

This second investment bank model is often referred to as a "markets" model as opposed to a "banks" model because it largely relies on investment banks' selling corporate debt to households and fund managers. The best example is the development of the asset-backed securities markets, in which originating banks (of a wide variety) package loans (again, of a wide variety) to serve as the collateral behind marketed securities. Initially, the idea was that originating banks would shift the risks off their balance sheets, but they ended up retaining interests in a lot of the securities—again, a point we will return to.

Minsky (1992c) analyzed two alternative arrangements to the commercial-bank-plus-investment-bank model. The first is the universal bank model that was adopted in Germany and Japan; the second is the public holding company (PHC) model. A universal bank model combines commercial and investment banking functions in a bank that provides both short-term lending and long-term funding of the operation of firms. It issues liabilities, including demand deposits, to households and buys the stocks and bonds of firms. A universal bank might also provide a variety of other financial services, including mortgage lending, retail brokering, and insurance. The other alternative is the PHC model, whereby the holding company owns various types of financial firms with some degree of separation provided by firewalls. The PHC holds stocks and bonds of firms, and finances positions by borrowing from banks, the market, and the Treasury. Minsky argued that the development of money manager capitalism led to a convergence of these three models. This prescient recognition, in 1992, helps to explain the current crisis, in which problems with mortgages first brought down investment banks and then the short-term lending market (such as commercial paper) that bank holding companies had relied upon for financing their positions in assets—including collateralized debt obligations held by "special purpose vehicle" (SPV) subsidiaries.

Note how investment banking separates the proximate owners of the real capital assets (the corporation) from the ultimate owners (the investment bank in the first model, or households in the second). In fact, things can quickly become very complicated, with a "complex combination of equity shares, bonds, mortgages, leases and bank loans" that "finance the control of the capital assets that are needed for production" (Minsky 1992c, 32). All of the liabilities of the corporation are assets of other economic units, entailing "dated, demand, or contingent claims to the cash flows that the operations of the unit, operations that depend upon the use of the physical assets, generate." Today's production of investment goods creates the profits that validate yesterday's decision to invest. Since today's financing of the ownership of positions in capital assets sets up a stream of commitments to pay over a series of tomorrows, the positions taken today will not be validated if production of investment goods does not take place in those tomorrows. "This intertemporal nature of the financial relations of a capitalist economy," Minsky wrote, "is the essential reason why capitalist economies are likely not to behave in a nice equilibrium-seeking way and why markets need to be regulated and controlled."

The layering of financial commitments on top of real assets that generate income creates a new kind of capitalism, one in which ownership positions need to be continually validated. This new capitalism is in sharp contrast to the commercial capitalism stage, where capital assets are owned outright so that an occasional failure to generate gross capital income does not threaten the entrepreneur's existence. As we shall see, the finance capitalism stage is quite different, since a shortfall of gross profits sets in motion behaviors that not only threaten the individual firm, but can also threaten the entire system with debt deflation dynamics.

According to Minsky, that phase of capitalism—what he called (after Rudolf Hilferding) "finance capitalism"—imploded in the Great Depression. The government was too small to offset the collapse of gross capital income that followed the Great Crash of 1929. After World War II, we emerged with a new stage of capitalism—managerial welfare-state capitalism—with a government so large that its deficit could expand sufficiently in a downturn to offset the swing of investment. This maintained the aggregate surplus, allowing debts to be serviced. In addition, an array of New Deal reforms had strengthened the financial system, separating investment banks from commercial banks and putting in place government guarantees such as deposit insurance. But, as Minsky observed, stability is destabilizing. The relatively high rate of economic growth, plus the relative stability of the financial system, over time encouraged innovations that subverted the New Deal constraints. In addition, the financial wealth (and private debt) grew on trend, producing huge sums of money under professional management. Minsky called this stage the "money manager" phase of capitalism.

Banking in the Money Manager Phase of Capitalism

In an important sense, money manager capitalism represents a return to the prewar finance capitalism stage. So let us first briefly look at the condition of the financial system in 1929, on the precipice of the Great Crash. Then we will look at the shift away from paternalistic capitalism and toward money manager capitalism. In the subsequent section, we will examine in more detail the condition of the financial system that collapsed in 2007.

As John Maynard Keynes (1936) famously described in his *General Theory*, separation of nominal ownership (holders of shares) from management of enterprise meant that prices of equities would be influenced by "whirlpools" of optimism and pessimism.[1] Worse, as John Kenneth Galbraith (2009 [1954]) made clear, stocks could be manipulated by insiders—Wall Street's financial institutions—through a variety of "pump and dump" schemes. Indeed, the 1929 crash resulted from excesses promoted by investment trust subsidiaries of Wall Street's banks. Since the famous firms like Goldman Sachs were partnerships, they did not issue stock; hence, they put together investment trusts that would purport to hold valuable equities in other firms (often in other affiliates, which sometimes held no stocks other than those in Wall Street trusts) and then sell shares in these trusts to a gullible public.

Effectively, trusts were an early form of mutual fund, with the "mother" investment house investing a small amount of capital in their offspring, highly leveraged using other people's money. Goldman and other firms would then whip up a speculative fever in shares, reaping capital gains (Galbraith 2009 [1954]). Pyramid schemes are the worst example of what Minsky called Ponzi finance; there was very little in the way of real production or income associated with all this trading in paper. Indeed, as Galbraith showed, the "real" economy was long past its peak—there were no "fundamentals" to drive the Wall Street boom. Inevitably, the economy collapsed and a debt deflation began as everyone tried to sell out of their positions in stocks—causing prices to collapse. Spending on the "real economy" suffered, and we were off to the Great Depression.

As described above, the "markets" type of investment bank (which intermediates shares between the issuing corporation and the household owners) opens up the possibility that underwriting will not be well done, since the risks are pushed off onto the holders of corporate debt and equity. All of this will sound familiar to anyone who has studied the dot-com, commodities, and real estate bubbles of the past decade (see Wray 2008a, 2008b). While many point to the demise of the Glass-Steagall separation of banking by function, the problem was actually the demise of underwriting. Arguably, all the recent financial crises in the United States have resulted in large part from declining underwriting standards. (Below we will visit Minsky's views on the Glass-Steagall Act.)

The New Deal's reaction to the Great Crash was to prohibit commercial banks from handling equities—a reasonable response to the excesses of the 1929 boom. The banking crisis had been made very much worse by banks that were caught holding stocks with little or no value, many of them issued by investment trusts. Ironically, even the investment banks that had created the trusts got burned: they also held the worthless stocks. In some cases, this was because they got caught holding stocks they were trying to sell when the market crashed. However, many had invested in the pyramid schemes they created—following the "greater fool" theory that they would recognize the peak and sell out before the crash. Again, this will sound familiar to anyone who has studied the 2007 crisis: the banks that originated the toxic waste in the mid-2000s got caught holding it for precisely the same reasons.

In other words, the problem and solution are not really related to functional separation, but rather to the erosion of underwriting standards that is inevitable over a run of good times, and especially when a trader mentality triumphs. If a bank believes it can offload questionable assets before values are doubted, its incentive to do proper underwriting is reduced. And if asset prices are generally rising on trend, the bank will try to share in the gains by taking positions in the assets. This is why the current calls by some to force banks to "put skin in the game" by holding some fraction of the toxic waste they produce is wrong-headed—banks will gladly increase "skin" in a speculative boom, and get caught holding the trash. In the final section we will discuss some policies that could instead discipline underwriting standards.

Minsky argued that the convergence of the various types of banks under the umbrella of the bank holding company, and within shadow banks, was fueled by the growth of money manager capitalism. It was also encouraged by the expansion of the government safety net, as Minsky remarked: "This convergence is also reflected in the United States by a proliferation of government endorsements of private obligations" (Minsky 1992c, 39). Indeed, it is impossible to tell the story of the current crisis without reference to the implicit guarantee given by the Treasury

to the mortgage market through its government-sponsored enterprises (Fannie Mae and Freddie Mac), through the student loan market (Sallie Mae), and even through the "Greenspan Put" and the Bernanke "Great Moderation," all of which gave markets the impression that the government would never let markets fail.

In the aftermath of the crisis, the government's guarantee of liabilities went far beyond FDIC-insured deposits and Fannie and Freddie guarantees of mortgage-backed securities (MBSs) to cover larger-denomination deposits as well as money market funds, and the Fed extended lender-of-last-resort facilities to virtually all financial institutions (with bailouts also going to auto companies, and so on). This was a foregone conclusion once Glass-Steagall was circumvented and then gutted, and investment banking, commercial banking, and all manner of financial services were consolidated in a single financial "big box" superstore with explicit government guarantees over a portion of the liabilities. Financial institution indebtedness grew to some 120 percent of GDP—the leveraging and layering of national income that Minsky addressed—with complex and unknowable linkages among chartered banks and mostly unregulated institutions. Clearly, if problems developed somewhere in a highly integrated system, the Treasury and Fed would be on the hook to rescue the shadow banks too.

As late as the 1990s, the big investment banks were still partnerships, so they were unable to directly benefit from the run-up of the stock market—a situation similar to 1929. An investment bank could earn fees by arranging initial public offerings for start-ups, and it could trade stocks for others or for its own account. But in the irrational exuberance of the late 1990s, that looked like small change. How could an investment bank get a bigger share of the stock market action? In 1999 the largest partnerships went public in order to enjoy the advantages of issuing stock in a boom. Top management was rewarded with stocks—leading to the same "pump and dump" incentives that drove the 1929 boom.

To be sure, traders like Robert Rubin (who would become Treasury secretary under Clinton) had already come to dominate firms like Goldman. Traders necessarily take a short view: you are only as good as your last trade. More important, traders take a zero-sum view of deals: there will be a winner and a loser, with the investment bank pocketing fees for bringing the two sides together. Better yet, the investment bank takes one of the two sides—preferably the winning side—and pockets the fees and collects the winnings. Before this transformation, trading profits were a small part of investment bank revenues. For example, before Goldman went public, only 28 percent of its revenues came from trading and investing activities. As of April 2010, that figure had grown to about 80 percent. While many think of Goldman and JPMorgan Chase (the investment banks remaining after the demise of Lehman Brothers, Bear Stearns, and Merrill Lynch, all of which folded or were absorbed by other firms) as banks, they are really more like huge hedge funds, albeit very special ones that now hold bank charters, granted during the crisis when investment banks were having trouble refinancing positions in assets—giving them access to the Fed's discount window and to FDIC insurance. That, in turn, lets them obtain funding at near-zero interest rates. Indeed, in 2009 Goldman spent only slightly more than $5 billion to borrow, versus $26 billion in interest expenses in 2008—a $21 billion subsidy thanks to its access to cheap, government-insured, deposits. The two remaining investment banks were also widely believed to be "backstopped" by the government—under no circumstances would they be allowed to fail—keeping stock prices up (see Wray 2010).

In some ways, things were even worse than they had been in 1929 because the investment banks had gone public, issuing equities directly into the portfolios of households and indirectly to households through the portfolios of managed money. Therefore, Goldman or Merrill could not simply jettison one of its unwanted offspring: problems with the stock or other liabilities of the behemoth financial institutions would rattle Wall Street and threaten the solvency of pension and other invested funds. This finally became clear to the authorities after the problems with Bear and Lehman. The layering and linkages among firms—made opaque by over-the-counter derivatives such as credit default swaps (CDSs)—made it impossible to let them fail one by one, as the failure of one would bring down the whole house of cards.

The problem was that total financial liabilities in the United States rose to about five times GDP (versus 300 percent in 1929), so that every dollar of income had to service five dollars of debt. That is an average leverage ratio of five times income. That is one (scary) way to measure leverage. For, as Minsky and Mayer argued, a low leverage ratio is, historically, the important measure for bank profitability—which ultimately must be linked to repayment of principle and interest out of income flows.

Another measure, of course, is the ratio of debt to assets. This became increasingly important during the real estate boom, when mortgage brokers would find financing for 100 percent or

more of the value of a mortgage, on the expectation that real estate prices would rise. That is a trader's, not a banker's, perspective, since it relies on either sale of the asset or refinancing. A traditional banker might feel safe with a capital leverage ratio of 12 to 1, with careful underwriting to ensure that the borrower would be able to make payments. With equity at risk, underwriting is essential.

However, for a mortgage originator or securitizer who has no plans to hold the mortgage, what matters is the ability to place the security. Many considerations then come into play, including prospective asset price appreciation, credit ratings, monoline and CDS "insurance," and "overcollateralization" (markets for the lower tranches of securities). We need not go deeply into the details of these complex instruments. What is important is that income flows take a backseat in such arrangements, and acceptable capital leverage ratios are much higher. For money managers, capital leverage ratios are 30 to 1, and reach up to several hundred. But even these large numbers hide the reality that risk exposures can be very much higher, since many commitments are not reported on balance sheets. There are unknown and essentially unquantifiable risks entailed in counterparties—for example, in supposedly hedged CDSs in which one sells "insurance" on suspected toxic waste and then offsets risks by buying "insurance" that is only as good as the counterparty. Because balance sheets are linked in highly complex and uncertain ways, the failure of one counterparty can spread failures throughout the system.

Ultimately, all of these financial instruments rest on the shoulders of some homeowner trying to service her mortgage out of income flows—on average, with five dollars' worth of debt and only one dollar of income to service them. As Minsky argued, "National income and its distribution is the 'rock' upon which the capitalist financial structure rests" (Minsky 1992d: III, 2). Unfortunately, that rock is holding up a huge financial structure, and the trend toward concentration of income and wealth at the top makes it ever more difficult to support the weight of the debt.

In an ideal world, a lot of the debts will cancel, the homeowner will not lose her job, and the FIRE (finance, insurance, and real estate) sector can continue to force 40 percent of all corporate profits in its direction. But that is not the world in which we live. In our little slice of the blue planet, the homeowner missed some payments, the securities issued against her mortgage got downgraded, the monoline insurers went bust, the CDSs went bad when AIG failed, the economy slowed and the homeowner lost her job and then her house, real estate prices collapsed—and, in spite of its best efforts to save money manager capitalism, the federal government has not yet found a way out of the morass.

Banking on the Precipice: The Financial System That Collapsed in 2007

Minsky's writings in early 1992 addressed the banking crisis at that time (which followed the 1980s S&L crisis), but most of his points could be applied to the continuing evolution of the financial structure, which finally collapsed in 2007. He warned that the financial conservativism of the early postwar years had given way to money manager capitalism, which "ushered in a new era of pervasive casino capitalism"—with the leveraged buyouts of the late 1980s serving as a good example of the excesses (Minsky 1992d: II, 9). Much of that boom was driven by pension funds "both as suppliers of the equity base for leveraged buy outs and as the takers of the high yield bonds (junk bonds). . . . Systemic overindebtedness may well be a legacy of pension funds in the United States." He argued that the decrease in the power of banks and the concomitant rise of the power of managed money "has little to do with the movement to deregulate banks and other financial institutions." Instead, he blamed the 1979–82 Volcker experiment in monetarism that wiped out bank and thrift equity, payments-system innovations (such as electronic funds transfers and credit cards) that took away cheap deposit sources of bank funds, and the "change in the international clout of the United States" as far more important (Minsky 1992d: II, 12). Thus, Minsky attributed the financial sector's transformative shift away from banking and toward managed money, which occurred over a long period, to complex, and mostly endogenous, factors. While deregulation (in the early 1980s, and then again in the late 1990s, after Minsky's death) played a role, Minsky insisted that this was of secondary importance.

On the eve of the 2007 crash, we no longer had any sharp distinction between investment banking and commercial banking—and repeal of the Glass-Steagall Act in 1999 eliminated any remaining barriers. Bank holding companies could engage in business across the spectrum of financial activities. Some activities were farmed out to independent or quasi-independent specialists (independent mortgage brokers, SPVs). Many financial services were supposedly removed from financial institutions, to be performed by "markets." However, this shift was more apparent than real, since the dominant financial institutions controlled those markets and set the prices of financial assets (often using complex

and proprietary models). This is probably what Minsky meant when he said that money manager capitalism had integrated the various bank models. For our purposes, a handful of financial behemoths provided the four main financial services: commercial banking (short-term finance for business and government), payments (for households, firms, and government), investment banking (long-term finance for firms and government), and mortgages (residential and commercial real estate). A lot of the debts were securitized and ultimately held in pension, university endowment, and sovereign wealth funds. (Note that, if anything, the biggest institutions have consolidated their power in the aftermath of the crisis, largely with government help.)

The originate-to-distribute model virtually eliminated underwriting, to be replaced by a combination of property valuation by assessors who were paid to overvalue real estate, by credit ratings agencies who were paid to overrate securities, by accountants who were paid to ignore problems, and by monoline insurers whose promises were not backed by sufficient loss reserves. As Jan Kregel (2008) has argued, the mortgages were Ponzi schemes from the very beginning: they required rising real estate prices as well as continual access to refinance because borrowers did not have the capacity to service the loans. Much of the activity was actually off the balance sheets of banks and thrifts, with mortgage brokers arranging for finance, investment banks packaging the securities, and the shadow banks, or managed money, holding the securities. While Fannie and Freddie have been subjected to much ridicule, in truth neither of them made or arranged any of the mortgages, and they only began to purchase toxic securities because they were all that markets were selling.

When delinquencies and defaults on mortgages rose, problems immediately came back to the banks along several avenues: they were stuck with securities they were trying to sell, they had sold credit default "insurance" or had provided "buy-back" guarantees on securities they had sold, they had SPVs with loads of bad assets, and they could not refinance their positions because the market for short-term debt had practically disappeared. But this was only the beginning of the financial sector's problems. Shenanigans similar to those that occurred in 1929 became widespread in the past decade, as traders adopted the "greater fool" theory: though certain the whole thing would inevitably collapse, each trader thought he could sell out position at the peak, shunting toxic assets off to the less savvy. Just as in 1929, traders found that selling into a collapsing market meant losses, and falling asset prices meant collateral calls with no access to finance.

We are very far indeed from Martin Mayer's vision of banking, or Hyman Minsky's concept of banks that finance the capital development of the economy. In the following section we return to Minsky's insights on banking, and try to identify what banks should be doing in our new millennium. The previous discussion should make it pretty clear that banking as practiced in the millennium's first decade has gone seriously astray.

What *Should* Banks Do?

First, let's enumerate the essential functions to be provided by the financial system: (1) a safe and sound payments system; (2) short-term loans to households and firms and, possibly, to state and local government; (3) a safe and sound housing finance system; (4) a range of financial services including insurance, brokerage, and retirement savings services; and (5) long-term funding of positions in expensive capital assets.

Obviously, no single institution should provide all of these services, although the long-run trend has been to consolidate a wide range of services within the affiliates of a bank holding company. The New Deal reforms of the 1930s had separated institutions by function (and state laws against branching provided geographic constraints). Minsky recognized that Glass-Steagall had already become anachronistic by the early 1990s. He insisted that any new reforms must take into account the accelerated innovations in both financial intermediation and the payments mechanism. As discussed above, he believed these changes were largely market driven, and not due to deregulation. The demise of commercial banking and the rise of shadow banking were largely a consequence of the transition to money manager capitalism.

In the draft book manuscript he left uncompleted, Minsky dealt in detail with a Treasury proposal for "modernizing" the financial system. Briefly, this document made recommendations for "safer, more competitive banks," by "strengthening" deposit insurance, weakening Glass-Steagall and state limits on branching, allowing corporations to own banks, and consolidating regulatory supervision in the Treasury at the expense of reducing the role of the Fed. Minsky argued that the proposal was at best superficial because it ignored shadow banks. While he quibbled with the approach taken to rescue the FDIC (recall that many thrifts had failed and even the largest banks were in trouble in the early 1990s), he agreed that deposit insurance had to be strengthened. He argued that weakening Glass-Steagall and state

limits on branching were an attempt to "fix something that is not broke," because small- to medium-sized banks are more profitable and relation oriented. In other words, there was no reason to allow or promote the rise of hegemonic financial institutions with national (or international) markets and broad scope. As many others have long argued, the economies of scale associated with banking are achieved at the size of relatively small banks.

Minsky was not swayed by the Treasury's argument that banks were becoming uncompetitive because they could not branch across state lines or because certain practices were prohibited to them. He believed that repealing these constraints would simply reduce the profitability of the smaller, relation-oriented banks. However, he did recognize that the smaller banks would lose market share, anyway, due to competition from shadow banks. Hence, the solution would not be found in promoting bigger, less profitable banks that are not interested in relation-oriented banking. Rather, Minsky would allow greater scope to the activities of the small community banks—a defense against encroachment by shadow banks. We might call this "intensifying" banking—allowing each small institution to provide a greater range of services—as opposed to promoting branching and concentration of power in the hands of a few large bank holding companies with a variety of subsidiaries.

In his proposal for development of the newly independent Eastern European nations, Minsky argued that the critical problem was to "create a monetary and financial system which will facilitate economic development, the emergence of democracy and the integration with the capitalist world" (Minsky 1992c, 28). Except for the latter goal, this statement applies equally well to promotion of capital development of the Western nations (see also Minsky 1993).

In Minsky's view, capital development of the economy can be "ill done" in two main ways: the "Smithian" and the "Keynesian." The first refers to what might be called "misallocation": the wrong investments are financed. The second refers to an insufficiency of investment, which leads to a level of aggregate demand that is too low to promote high employment. The 1980s suffered from both, but mostly from inappropriate investment—especially in commercial real estate investment. We could say that the 2000s again suffered from ill-done, Smithian capital development, since far too much finance flowed into the residential real estate sector. In both cases, Minsky pointed the finger at securitization. In the 1980s, the thrifts, which were not holding mortgages and had lowered underwriting standards, had funding capacity that flowed into commercial real estate; in the 2000s, the mania for risky (high-return) asset-backed securities fueled subprime lending. In a discerning analysis, Minsky argued that

> Because of the way the mortgages were packaged it was possible to sell off a package of mortgages at a premium so that the originator and the investment banking firms walked away from the deal with a net income and no recourse from the holders. The instrument originators and the security underwriters did not hazard any of their wealth on the longer-term viability of the underlying projects. Obviously in such packaged financing the selection and supervisory functions of lenders and underwriters are not as well done as they might be when the fortunes of the originators are at hazard over the longer term. (Minsky 1992b, 22–23)

The implication is rather obvious: good underwriting is promoted when the underwriter is exposed to the longer-term risks. This brings us back to Minsky's skeptical banker:

> When we go to the theater we enter into a conspiracy with the players to suspend disbelief. The financial developments of the 1980s [and 1990s and 2000s!] can be viewed as theater: promoters and portfolio managers suspended disbelief with respect to where the cash would come from that would [validate] the projects being financed. Bankers, the designated sceptic in the financial structure, placed their critical faculties on hold. As a result the capital development was not done well. Decentralization of finance may well be the way to reintroduce the necessary scepticism. (Minsky 1992a, 37)

Decentralization plus maintaining exposure to risk could reorient institutions back toward relationship banking. Unfortunately, most trends in recent years have favored concentration. The "too big to fail" doctrine that dates back to the problems of Continental Illinois in the early 1970s gives an obvious advantage to the biggest banks. These are able to finance positions at the lowest cost because the government stands behind them. Small local banks face higher costs as they try to attract local deposits by opening more offices than necessary; it also costs them more to attract "wholesale" deposits in national markets. Even in the case of FDIC-insured deposits (which have no default

risk), smaller banks pay more simply because of the market's perception that they are riskier (i.e., the government does not backstop them). As discussed, investment banks are now allowed to operate like hedge funds, but they can obtain FDIC-insured deposits and can rely on Fed and Treasury protection should risky trades go bad. A small bank is very hard put to compete.

How can the system be reformed to favor relationship banking that seems to be more conducive to promoting the capital development of the economy? First, it would be useful to reduce government protections for less desirable banking activities. The government currently provides two important kinds of protection: liquidity and solvency. Liquidity is mostly provided by the Fed, which lends reserves at the discount window and buys assets (in the past, mostly government debt, but in recent years the Fed has bought private debt as well). Refusing to provide liquidity is not the right way to discipline the financial system. Minsky always advocated extending discount window operations to include a wide range of financial institutions. If the Fed had lent reserves without limit to all financial institutions when the crisis first hit, the liquidity crisis probably could have been resolved more quickly. Hence, this kind of government protection should not be restrained.

The second kind of protection, against default, is more problematic. Deposit insurance guarantees no default risk on certain classes of deposits—now up to $250,000. This guarantee is essential for clearing at par and for maintaining a safe and secure payments system. There is no good reason to limit FDIC insurance to $250,000, so the cap should be lifted. The question is which types of institutions should be allowed to offer such deposits, or rather, which types of assets would be eligible for financing using insured deposits. Some considerations would include riskiness of assets, maturity of assets, and whether purchase of the assets fulfills the public purpose: the capital development of the economy. Risky assets put the FDIC on the hook, since it must pay out dollar for dollar; but if the FDIC resolves a failing institution, it will receive only cents on each dollar of assets. In his discussion of the Treasury's proposal for rescuing the FDIC, Minsky made clear that "cost to the Treasury" should not be a major concern (another reason for removing the cap: it is not important to limit the Treasury's losses to the first $250,000 of a deposit).

For the same reason, we can probably also conclude that while riskiness of assets financed by issuing insured deposits should be a concern, potential losses for the FDIC are not the problem. Further, maturity of the assets is no longer a concern if the Fed stands ready to lend reserves as needed; a bank could always meet deposit withdrawals by borrowing reserves at the discount window, so it would not need to sell longer-term assets. Hence, the major argument for limiting the ability of financial institutions to finance asset positions by issuing insured deposits is that government has a legitimate interest in promoting the public purpose. Banks should be prevented from issuing insured deposits in a manner that causes the capital development of the country to be "ill done."

Banks that receive government protection in the form of liquidity and (partial) solvency guarantees are essentially public-private partnerships. They promote the public purpose by specializing in activities that they can perform more competently than the government can. One of these is underwriting: assessing creditworthiness and building relations with borrowers that enhance their willingness to repay. Over the past decade, a belief that underwriting is unnecessary flowered and then collapsed. Financial institutions discovered that credit rating scores could not substitute for underwriting, in part because those scores can be manipulated, but also because the elimination of relationship banking changes the behavior of borrowers and lenders. This means that past default rates become irrelevant to assessing risk (as credit raters have discovered). If banks are not underwriting, why would the government need them as partners? The government could just finance directly activities that it perceives to be in the public interest: home mortgages, student loans, state and local government infrastructure, and even small-business activities (commercial real estate and working capital expenses). Where underwriting is not seen to fulfill a public purpose, then the government can simply cut out the middleman.

Indeed, there has been a movement in that direction, with the government taking back control of student loans. When the government guarantees deposits as well as loans (e.g., mortgages and student loans), the banks' role becomes merely to provide underwriting. On the other hand, where underwriting is critical—say, in commercial lending—then the government needs the middleman to select those firms deserving of credit.

The problem banks have faced over the past three or four decades is the "cream skimming" of their business by shadow banks (or, as Minsky called it, managed money). Uninsured checkable deposits in managed funds (such as money market mutual funds) offered a higher-earning and relatively convenient alternative to insured deposits, allowing much of the payments system to bypass banks. As Minsky argued, credit cards also diverted the payments system away from banking (although the

larger banks capture a lot of the credit card business). At the same time, banks were squeezed on the other side of their balance sheet by the development of the commercial paper market, which allowed firms to borrow short term at interest rates below those on bank loans (sometimes, firms could even borrow more cheaply than banks could). Again, larger banks recaptured some of that business by earning fees for guaranteeing commercial paper (originally through a credit line, which did not necessarily guarantee the creditworthiness of the issuing firm, but did commit the bank to lending if the firm came to be seen as troubled).

But these competitive pressures caused banks to jettison expensive underwriting and relationship banking in favor of the originate-to-distribute model. The incentives are mostly negative when it comes to bank guarantees against debt that is issued without careful underwriting: banks earn fee income, so the drive is to maximize revenue by maximizing throughput. While it is true that the bank is on the hook if the backup provided by the guarantee is triggered, those getting the fees today are not necessarily incentivized to fully account for that risk. And given the complex linkages, guarantees likely will be triggered at an inconvenient time for the banks—precisely when everything is going bad all at once. Therefore, guarantees and linkages grow in good times that then look horrible in bad times.

There is no simple solution to these competitive pressures, although Minsky offered some ideas. In several publications Minsky argued that policy should move to make the payments system a profit center for banks. "One weakness of the banking system centers around the American scheme of paying for the payments system by the differential between the return on assets and the interest paid on deposits. In general the administration of the checking system costs some 3.5% of the amount of deposits subject to check. If the checking system were an independent profit center for banks, then the banks would be in a better position to compete with the money funds" (Minsky 1992a, 36). It is not desirable to try a return to the early postwar period, when banks and thrifts monopolized the payments system. However, in the 1800s, the federal government eliminated private banknotes by placing a tax on them. In a similar manner, transaction taxes could be placed on payments made through managed funds, with preferential treatment of payments made through banks to restore a competitive edge. In addition, banks could be offered lower, subsidized, fees for use of the Fed's clearing system. Minsky (1992d) also held out some hope that by substituting debit cards for checks, banks could substantially lower their costs of operating the payments system—something that does seem to be happening.

Part of the problem today is that the Fed requires that a portion of a bank's funding come from retail deposits. As mentioned above, Minsky believed this causes local banks to open more offices than necessary in order to compete for retail deposits. Part of the reason for the New Deal's Regulation Q was precisely to eliminate competition for such deposits, on the belief that it raised the costs of such funds and induced banks to purchase riskier assets to cover those costs. The biggest "brand name" banks more easily attract retail deposits, and they also have the advantage that they are perceived to be safer. For this reason, Warren Mosler (2010) has called for the elimination of any requirement that banks maintain a specified proportion of their funding in the form of retail deposits. Taken along with Minsky's argument that banks should be able to borrow reserves on demand at the Fed, this means that the banks' cost of funds would be the Fed's overnight interest rate—plus any "frown costs."

Some, including Minsky's Levy colleague Ronnie Phillips (1995a, 1995b), have called for a return to the 100 percent money proposal of Irving Fisher and Milton Friedman, whereby deposit-issuing banks would be allowed to hold only Fed reserves and Treasury debt as assets. Minsky argued that this proposal loses sight of "the main object: the capital development of the economy. The key role of banking is lending or, better, financing. The questions to be asked of any financial system are what do the assets of banks and other financial institutions represent, is the capital development of the economy better served if the proximate financiers are decentralized local institutions, and should the stricture lean towards compartmentalized or broad jurisdiction institutions" (Minsky 1992a, 36–37). To be sure, Minsky did not categorically reject the narrow bank proposal (indeed, he wrote a supportive note for the book by Phillips [1995b]). He simply believed such a proposal addresses only a peripheral problem: the safety and soundness of the payments and savings systems. It does not directly address promotion of the capital development of the economy.

Recall the dichotomy between the Smithian problem and the Keynesian problem: banks might finance the wrong projects, and they might not finance the right amount. Opening the discount window to provide an elastic supply of reserve funding ensures that banks *can* finance positions in as many assets as they desire at the Fed's target rate. (As discussed above, the Fed would lend reserves on demand and remove any requirement that

banks finance a portion of their asset positions using retail deposits.) This does not guarantee that we have solved the Keynesian problem, since banks might finance too much or too little activity to achieve full employment. Offering banks unlimited funding addresses only the liability side of banking; it leaves the asset side open. It is somewhat easier to resolve the "too much" part of the Keynesian problem; the Fed or other regulators can simply impose constraints on bank purchases of assets when banks are financing too much activity. For example, during the recent real estate boom it was obvious (except, apparently, to mainstream economists and to many at the Fed) that lending should be curtailed.

The problem is that the orthodox response to too much lending is to raise the federal funds target rate. And because borrowing is not very interest sensitive, especially in a euphoric boom, rates must rise sharply to have much effect. Further, raising rates conflicts with the Fed's goal of maintaining financial stability, since—as the Volcker experiment showed—interest rate hikes that are sufficiently large to kill a boom are also large enough to cause severe financial disruption (something like three-quarters of all thrifts were driven to insolvency during the S&L crisis). In fact, Minsky argued that the early 1990s banking crisis was in part due to the aftermath of the Volcker experiment of a decade earlier. Indeed, this recognition is part of the reason that the Greenspan/Bernanke Fed turned to "gradualism," a series of very small rate hikes that are well telegraphed. Unfortunately, this means that markets have plenty of time to prepare and to compensate for rate hikes, which means the hikes have less impact.

For these reasons, rate hikes are not an appropriate means of controlling bank lending. Instead, the controls ought to be direct: raising down payments and collateral requirements, and even issuing cease-and-desist orders to prevent further financing of some activities. For a while, imposing capital requirements was seen as a proper way to regulate bank lending: higher capital requirements not only make banks safer but also constrain bank lending, unless the banks can raise capital. Unfortunately, neither claim was correct. Higher capital requirements were imposed in the aftermath of the S&L fiasco, and codified in the Basel agreements. Rather than constraining bank purchases of assets, banks simply moved assets and liabilities off their balance sheets—putting them into SPVs, for example. Basel also imposed risk-adjusted weightings for capital requirements to encourage banks to hold less risky assets, for which they were rewarded with lower capital requirements. Unfortunately, banks gamed the system in two ways: (1) since risk weightings were by class, banks would take the riskiest positions in each class; and (2) banks worked with credit ratings agencies to structure assets, such as MBSs, to achieve the risk weighting desired. For example, banks could get, relatively easily, triple-A-rated tranches (as safe as sovereign government debt) out of packages of subprime and "liar loan" Alt-A mortgages—with 85–90 percent of investment-grade tranches made up of risky mortgages.

Finally, Minsky (1986) argued that, all else being equal, high capital ratios necessarily reduce the return on equity (and hence, the growth of net worth), so it is not necessarily true that higher capital ratios improve bank safety since they mean lower profitability. Indeed, with higher capital ratios banks must select a higher risk/return asset portfolio to achieve a targeted return on equity (Tymoigne and Wray 2009). Again, if regulators want to constrain the growth rate of lending, direct credit controls are apparently better.

On the other hand, not much can be done to encourage banks to lend when they do not want to. That is the old "you can't push on a string" argument, and it describes the current situation quite well. Government policy should not try to get banks to make loans they do not want to make! After all, if banks are our underwriters, and if their assessment is that there are no good loans to be made, then we should trust their judgment. In that case, lending is not the way to stimulate aggregate demand to get the economy moving toward fuller employment. Instead, fiscal policy is the way to do it.

Solving the Smithian problem requires direct oversight of bank activity, mostly on the asset side of their balance sheet. Financial activities that further the capital development of the economy need to be encouraged; those that cause it to be "ill done" need to be discouraged. One of the reasons that Minsky wanted the Fed to lend reserves to all comers was so that private institutions would be "in the bank"—that is, indebted to the Fed. As a creditor, the Fed would be able to ask the banker the question, How will you repay me?

> The Federal Reserve's powers to examine are inherent in its ability to lend to banks through the discount window. . . . As a lender to banks, either as the normal provider of the reserve base to commercial banks (the normal operation prior to the great depression) or as the potential lender of last resort, central banks have a right to knowledge about the balance sheet, income and

> competence of their clients, banks and bank managements. This is no more than any bank believes it has the right to know about its clients. (Minsky 1992d, 10)

The Fed would ask to see evidence for the cash flow that would enable the bank to service loans. It is common practice for a central bank to lend against collateral, using a "haircut" to favor certain kinds of assets (e.g., a bank might be able to borrow 100 cents on the dollar against government debt but only 75 cents against a dollar of mortgage debt). Collateral requirements and haircuts can be used to discipline banks—to influence the kinds of assets they purchase.

Examination of a bank's books also allows the Fed to look for risky practices and keep abreast of developments. The Fed was caught with its pants down, so to speak, by the crisis that began in 2007, in part because it generally supplied reserves in open market operations rather than at the discount window. Forcing private banks "into the bank" gave the Fed more leverage over their activities. For this reason, Minsky opposed the Treasury's proposal to strip the Fed of some of its responsibility for the regulation and oversight of institutions. If anything, he would have increased the Fed's role, and used the discount window as an important tool for oversight.

Minsky's views are relevant to current discussions about the creation of a "super" systemic regulator, and he probably would have sided with those who want to increase the Fed's power. Since "a central bank needs to have business, supervisory and examination relations with banks and markets if it is to be knowledgeable about what is happening," he also believed that reducing its responsibility for examining and supervising banks would also inhibit its "ability to perform its monetary policy function. This is so because monetary policy operations are constrained by the Federal Reserve's views of the effect such operations would have upon bank activities and market stability" (Minsky 1992d, 10). The Fed would be better informed to the extent that it supervised and examined banks—leading, one hopes, to better policy formation.

Minsky worried that the trend toward megabanks "may well allow the weakest part of the system, the giant banks, to expand, not because they are efficient but because they can use the clout of their large asset base and cash flows to make life uncomfortable for local banks: predatory pricing and corners [of the market] cannot be ruled out in the American context" (Minsky 1992d, 12). Further, since the size of loans depends on the capital base, big banks have a natural affinity for the "big deals," while small banks service smaller clients: "A 1 billion dollar bank may well have 80 million dollars in capital. It therefore would have an 8 to 12 million dollar maximum line of credit. . . . [In the U.S.] context this means the normal client for such banks is a community or smaller business: such banks are small business development corporations" (ibid.).

For this reason, Minsky advocated a proactive government policy to create and support small community development banks (CDBs) (Minsky et al. 1993). Very briefly, the argument advanced was that the capital development of the nation and of communities is fostered via the provision of a broad range of financial services. Unfortunately, many communities, lower-income consumers, and smaller and start-up firms are inadequately provisioned with these services. For example, many communities host far more check-cashing outlets and pawnshops than bank offices. Many households do not even have a checking account. Small businesses often finance activities using credit card debt. Hence, the proposal would have created a network of small community development banks to provide a full range of services (a sort of universal bank for underserved communities): (1) a payment system for check cashing and clearing, and for credit and debit cards; (2) secure depositories for savings and transaction balances; (3) household financing for housing, consumer debts, and student loans; (4) commercial banking services for loans, payroll services, and advice; (5) investment banking services for determining the appropriate liability structure for the assets of a firm, and placing those liabilities; and (6) asset management and advice for households (Minsky et al. 1993, 10–11).

The institutions would be kept small, local, and profitable. They would be public-private partnerships, with a new Federal Bank for Community Development Banks created to provide equity and to charter and supervise the CDBs. Each CDB would be organized as a bank holding company. Examples of its composition would be: a narrow bank to provide payments services; a commercial bank to provide loans to firms and mortgages to households; an investment bank to intermediate equity issues and long-term debt of firms; and a trust bank to act as a trustee and to provide financial advice.

Reform of the financial system does need to address the "shadow banks" of money manager capitalism. Minsky believed that pension funds were largely responsible for the leveraged-buyout boom (and bust) of the 1980s; similarly, strong evidence indicates that pension funds drove the commodities boom and bust of the mid-2000s (Wray 2008b). To be sure, this is just a part

of managed money, but it is a government-protected-and-supported portion—both because it gets favorable tax treatment and because it has quasi-government backing through the Pension Benefit Guaranty Corporation (Nersisyan and Wray 2010). Hence, yet another public-private partnership ought to serve the public purpose. Minsky wondered, "Should the power of pension funds be attenuated by having open-ended IRAs? (No limit to contributions, withdrawals without penalty but all withdrawals taxed, interest and dividend accruals not taxed except as they are spent)" (1992a, 35). The IRAs would compete with managed pension funds, reducing their influence. Greater regulation of pension funds—to ensure they serve the public purpose—is also required. For example, there is no justification for letting pension funds speculate in commodities, such as food and energy products. Nor should pension funds be allowed to use CDSs to bet against firms, households, or governments. The argument that such activities are potentially profitable should hold no water—even if it were true (and it is not: see Nersisyan and Wray 2010). As protected and tax-supported funds, these should not be allowed to engage in activities that run counter to the public purpose.

Finally, returning to Minsky's views on the role that financial institutions play in forcing and allocating a surplus, he would certainly be appalled at recent trends. First, an important shift has taken place, away from wage share and toward gross capital income. I will not go into all the implications of this, but stagnant wages clearly played a part in promoting the growth of household indebtedness over the past three decades, with rapid acceleration since the mid-1990s. As many at the Levy Institute had been arguing since 1996, the shift toward a private sector deficit that was unprecedentedly large and persistent proved to be unsustainable. The mountain of debt still crushing households is in part due to the shift of national income away from wage income, as households try to maintain living standards through borrowing.

Equally problematic is the allocation of profits toward the financial sector. Just before the crisis broke, in late 2007, 40 percent of all corporate profits accrued to the FIRE sector, and its share has returned to that level. This contrasts with a 10–15 percent share until the 1970s, and a 20 percent share until the 1990s. While value added by the FIRE sector also grew, from about 12 percent in the early postwar period to nearly 20 percent today, its share of profits was twice as high as its share of value added by the time of the 2000s bubble. Hence, we see three interrelated problems: the surplus forced by the financial sector is probably too large (the wage share is too small), the share of GDP coming from the financial sector is probably too large, and the share of the surplus allocated by the financial sector to itself is far too large. Downsizing finance is necessary to ensure that the capital development of the economy can be well done, not "ill done." With 40 percent of corporate profits going to finance, too little is left to other sectors, which encourages entrepreneurial effort and innovations to be directed (wrongly, in the Smithian sense) toward the financial sector.

Conclusion

Over past decades, the belief that "markets work to promote the public interest" gained in popularity. Minsky asked, *But what if they don't?* A system of constraints and interventions can work better. He also believed that we need to make "industry" dominate over "speculation" (recalling Keynes's famous dichotomy), and not vice versa, or the capital development of the economy will be ill done in two ways: the Smithian/Neoclassical way or the Keynes/Aggregate Demand way. If investment is misdirected, we not only waste resources but also get boom and bust. If investment is too low, we not only suffer from unemployment but also achieve profits too low to support commitments, leading to default. Further, when profits are low in "industry," problems arise in the financial sector, since commitments cannot be met. In that case, individual profit-seeking behavior leads to incoherent results as financial markets, labor markets, and goods markets all react in a manner that causes wages and prices to fall, generating a debt deflation. Unfortunately, things are not better when investment is too high: it generates high profits that reward innovation, generating greater risk taking and eventually producing a financial structure that is too fragile. As Minsky always argued, the really dangerous instability in a capitalist economy is in the upward direction—toward a euphoric boom. That is what makes a debt deflation possible, as asset prices become overvalued and too much unserviceable debt is issued.

The Smithian ideal is that debt deflations are not endogenous; rather, they must result from exogenous factors, including too much government regulation and intervention. So the solution is deregulation, downsizing government, tax cuts, and making markets more flexible. The Keynesian view is that the financial structure is transformed over a run of good times, from a robust to a fragile state, as a result of the natural reaction of agents to the successful operation of the economy. If policymakers understood this, they could formulate policy to attenuate the transformation—and then to deal with a crisis when it occurs.

Note

1. "The position becomes serious when enterprise becomes the bubble on a whirlpool of speculation" (chap. 12, 159).

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