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Minsky and the Global Financial Crisis

At the annual banking structure and competition conference of the Federal Reserve Bank of Chicago in May 1987, the buzzword heard in the corridors and used by many of the speakers was "that which can be securitized, will be securitized."

—*Minsky, 1987*[1]

There is a symbiotic relation between the globalization of the world's financial structure and the securitization of financial instruments. Globalization requires the conformity of institutions across national lines and in particular the ability of creditors to capture assets that underlie the securities.

—*Minsky, 1987*[2]

Securitization reflects a change in the weight of market and bank funding capabilities: market funding capabilities have increased relative to the funding abilities of banks and depository financial intermediaries. It is in part a lagged response to monetarism. The fighting of inflation by constraining monetary growth opened opportunities for nonbanking financing techniques.

—*Minsky, 1987*[3]

The emergence of money manager capitalism means that the financing of the capital development of the economy has taken a back seat to the quest for short run total returns.

—*Minsky, 1992, p. 32*[4]

When the GFC (Global Financial Crisis) struck, many commentators called it the "Minsky crisis" or "Minsky moment," recognizing the work of Minsky who—as discussed earlier—had developed the "financial instability hypothesis" that described the transformation of an economy from a "robust" financial structure to a "fragile" one. A "run of good times" would encourage ever-greater risk-taking, and growing instability would be encouraged if financial crises were resolved by swift government intervention.

As Minsky insisted "stability is destabilizing"[5]—and this seemed to perfectly describe the last few decades of U.S. experience, during which financial crises became more frequent and increasingly severe. We could list, for example, the savings and loan crisis of the 1980s, the stock market crash of 1987, the developing country debt crises (1980s to early 1990s), the Long Term Capital Markets (1998) and Enron (2001) fiascoes, and the dot-com collapse (2000–2001) as precursors to the final "great crash" in 2007.[6]

Each of these crises led to U.S. government intervention that prevented a downward spiral of financial markets or of the economy (although in some cases, recessions followed the crises); indeed, after the dot-com crisis, the belief was that a new Great Moderation[7] had taken hold in the United States, making serious downturns impossible. This notion encouraged more risk, more financial layering, and more leveraging (debt issued against debt, with little net worth backing it up). All of this dangerous financial structure fits Minsky's arguments about growing financial instability.

So, though it is completely appropriate to give credit to Minsky's foresight, we also need to look at Minsky's later writings, which developed a "stages" approach to the longer term transformation of the financial system. This approach went well beyond the "financial theory of investment and investment theory of the cycle" that Minsky had begun to develop in the 1950s.

Minsky's Stages Approach: Finance Capitalism and Managerial Welfare-State Capitalism

Minsky's later writing during the late 1980s and through the 1990s focused on the long-term transformation of the financial system since the late nineteenth century. In a sense, he was returning to the evolutionary approach of his dissertation advisor, Joseph Schumpeter. Let us briefly describe the main stages.

Commercial Capitalism. We can begin with the "commercial capitalism" stage that coincides with the dominance of "commercial banking," as described in chapter 4. In this stage, banks were important for financing the production process itself—lending to firms so that they could hire labor and purchase the materials needed for production.

Investment goods were mostly purchased with internal funds, provided by the firms' owners. However, as investment goods became increasingly expensive, owners had to look for external funds. This problem led to a demand for the services of a different type of financial institution, the investment bank. As discussed earlier, the investment bank would either provide long-term funding directly, or it would float the debts or equity of the investing firms.

Finance Capitalism.[8] In the early twentieth century, a new form of capitalism, named "finance capitalism" by Rudolf Hilferding, took form, dominated by investment banks that provided the finance for corporations. This development made it possible to obtain external finance for the expensive projects undertaken by the steel and energy firms and railroads owned by the "robber barons."

To a substantial degree, finance became "globalized" as shares and bonds were sold in international markets. The investment banks played an important role in helping the "trusts" to consolidate power and oligopolize markets. Indeed, to obtain long-term external finance through the investment banks, the borrower really needed market power—for otherwise the lending was too risky. Borrowing firms needed to demonstrate that they had sufficient price-setting power to ensure that they could service the long-term debt issued to finance positions in complex and long-lived plant and equipment. The railroads are a perfect example: very expensive and long-lived infrastructure that was financed by floating bonds in global markets.

By the late 1920s, investment banks were largely devoting their efforts to financing speculation in financial assets, particularly in equities issued by subsidiary trusts of the investment banks themselves. In truth, these were little more than pyramid schemes—speculating in essentially worthless shares, much like the infamous schemes of Charles Ponzi or the modern-day Bernie Madoff.[9]

Managerial-Welfare State Capitalism.[10] In any event, in Minsky's view, the Great Depression ended the finance capitalism stage and ushered in a much more stable version, with the New Deal reforms of the financial sector plus a much bigger role for the federal government in managing the economy. Minsky called this "managerial-welfare state" capitalism, where the "Big Bank" (Fed) and "Big Government" (Treasury) promoted stable economic growth, high employment, and rising wages with falling inequality. The United States entered its economic "golden age," which lasted from the end of World War II through the early 1970s.

The problem is that "stability is destabilizing"—the absence of deep recessions and severe financial crises encouraged innovations that increased financial instability. Furthermore, for reasons we won't explore now, conservative politicians and economists were able to slowly chip away at the New Deal reforms that promoted growth while providing social protection. After 1974, median male earnings stopped growing and began to fall as workers lost effective representation by unions, the social safety net was gutted, and unemployment came to be seen as a desirable outcome—a tool used by policy makers to keep inflation down. Financial institutions were deregulated and desupervised, and their power grew in a self-reinforcing manner: as they were able to capture a greater share of profits, their political power increased, making it possible to further subvert or eliminate regulations so that they could gain an even larger share of profits.

The Long Transformation to Instability. There are many aspects to this transformation, and Minsky was certainly not the only one to notice it. Some called it the rise of "casino capitalism," and many identified it as "financialization."[11] In important respects, it was similar to Hilferding's "finance capitalism"—with what were called "nonbank banks," or later, "shadow banks" rising to challenge the investment banks and the commercial banks. This development also provided justification for dropping the New Deal reforms so that the banks could compete with the new intruders who were poaching business. This is a huge topic, but the important point is that even as shadow banks pushed financial practice to new frontiers, the commercial (and less regulated investment) banks insisted that they had to follow suit.

At the same time, the structure of incentives and rewards was changed such that risky bets, high leverage ratios, and short-term profits were promoted over long-term firm survival and returns to investors. Many if not most of the new practices served no social purpose beyond making top management of financial institutions incredibly rich. A good example of the transformation was the conversion of the venerable investment banks like Goldman Sachs from partnerships to publicly held firms with hired and richly rewarded management.

While the structure and practices were somewhat different, the results were similar to those that led up to the "Great Crash" in 1929—"pump and dump" incentives were created, through which top management would exercise stock options, "pump" asset and equity prices, and then sell out ("dump") their own stocks before the speculative boom collapsed.

What we see by the early 2000s is the coalescence of three phenomena that made the biggest financial institutions extremely dangerous: the return of "pump and dump" strategies, ripping off customers and shareholders; the move from partnerships to corporate form, which increases the agency problems (institutions run in the interests of management, not owners); and excessive executive compensation that was tied to short-term performance (i.e., by rewarding them with stock options), which increases the pressures to "cheat" or to do anything else that justifies huge bonuses.

Money Manager Capitalism

Minsky called this new stage "money manager capitalism." This name draws attention to a characteristic feature: huge pools of funds under management by professionals—pension funds, sovereign wealth funds, hedge funds, university endowments, corporate treasuries, and so on.[12]

Every money manager had to beat the average return to retain clients, something that is of course statistically impossible. But with such incentives and with virtually no government regulation or oversight of shadow banking, this encouraged not only risky behavior but also ethically compromised actions.

In Minsky's view, the rise of these managed funds was caused by the success of the earlier managerial-welfare state capitalism: the absence of depressions and relatively good growth—plus policies that favored private pensions (such as tax exemptions)—allowed financial wealth to grow over the entire postwar period. Although financial crises came along and wiped out some wealth, each crisis was contained so that most wealth survived and quickly resumed growth in recovery.

What was really important was the dynamic created by the shift of power away from banks to the very lightly regulated “money managers” at the “shadow banks.” To compete, banks needed to subvert regulations through innovations and then to have them legislatively eliminated. This dynamic allowed banks to increase leverage ratios, and thus risk, to keep pace with shadow banking practice.

There was a “Gresham’s law”[13] in operation: those institutions that could reduce capital ratios and loss reserves[14] the most quickly were able to increase net earnings and thus rewards to management and investors.

Furthermore, there was a shift to maximization of share prices as one of the main goals of management—which supposedly aligned the interests of shareholders and top managers who received stock options in compensation. That in turn encouraged short-term focus on performance in equity markets, which—as we had already discovered in 1929—is accomplished through market manipulation (both legal and illegal). Again, top management was incentivized to engage in “pump and dump” once they exercised stock options. They could make tens of millions of dollars—and even much more—in this way.

The problem was that the sheer volume of financial wealth under management outstripped socially useful investments. To keep returns high, money managers and bankers had to turn to increasingly esoteric financial speculation—in areas that not only did not serve the public purpose but actively subverted it.

An example would be the rise of index speculation in commodities markets that drives up global prices of energy and food, leading to hunger and even starvation around the world.[15] The dot-com bubble is another example—speculators drove up the prices of stocks of Internet companies with no business model or prospective profits. The inevitable crash wiped out hundreds of billions of dollars of wealth.

Another example of speculation against the public interest is the U.S. real estate boom that began before 2000 and finally collapsed in 2007, triggering the GFC. It was the biggest speculative boom in U.S. history and was driven by money managers who created complex securities and derivatives for speculative bets—with many of those bets actually paying off if the homeowners defaulted and lost their homes.

Shredding of the New Deal Reforms and the Rise of Insecurity

Minsky had linked rising economic insecurity to the money manager phase.[16] As discussed previously, in the 1960s he argued against the Kennedy–Johnson War on Poverty because it emphasized welfare and training over job creation. Furthermore, unlike most Keynesian economists, he opposed policy to promote investment and other business-friendly policies that seek to achieve full employment by "pumping" aggregate demand—such as "military Keynesianism," which would stimulate spending in the defense sector in the hope that spending by workers in this sector would create jobs in others.

Minsky never believed the "rising tide lifts all boats" story.

Instead, he wanted targeted spending, New Deal-style government job creation (modeled after the Works Progress Administration, which created eight million jobs in the 1930s), and support for consumption by workers. His proposals were based on his theoretical approach.

First, he worried that the typical "Keynesian" policies would generate inflation long before they created full employment because they would create employment and output bottlenecks in the most advanced sectors (i.e., the defense industries, which are heavily unionized and oligopolistic). The inflation, in turn, would induce "stop–go" policy, with government purposely slowing growth and raising unemployment each time inflation increased.

Second, and related to this, the already well-off workers would see income gains fueled by Keynesian pump priming, increasing inequality among workers. General demand stimulus would likely benefit disproportionately the sectors and workers with economic power. Less skilled workers would be left behind.

Finally, he argued that offering only welfare and training, but no jobs, to the unemployed is unnecessarily defeatist, putting "the cart before the horse." It essentially tells the poor and unemployed that they must improve their skills, education, training, and even their character before they can get a job.[17] And it would train people for jobs that don't exist.

Time would prove him correct—inequality began to rise after 1970, along with trend increases to the unemployment rate—at least until the boom-and-bust cycle that began with President Clinton. Yet, after a decade with improvement of some social measures (between 1996 and 2006, unemployment trended somewhat lower, economic growth was a bit better, and poverty stopped rising), the GFC caused massive unemployment, increased poverty, and boosted inequality to record levels.

Minsky believed that the dynamics of money manager capitalism accelerated the rise of insecurity. The leveraged buyout is a good example because managed funds would buy "cash cows" (corporations with little debt) by issuing debt, then strip the best assets for sale and downsize the remaining hulk—slashing wages and benefits and laying off workers. As a result, Minsky worried, "workers at nearly all levels are insecure, as entire divisions are bought and sold and as corporate boards exhibit a chronic need to downsize overhead and to seek out the least expensive set of variable inputs." (Minsky and Whalen, 1996, p. 6).

With the demise of the paternalistic (or managerial-welfare) stage of capitalism, "Many families cannot distinguish recession from recovery" (Minsky and Whalen, 1996, p. 7). Even in "good times," wages barely rise and families fear for their jobs; more workers have to work several jobs to make ends meet, and most families need more than one wage earner to survive. Minsky quoted a *U.S. News and World Report* from 1994, which reported that "57 percent of those asked said the American Dream is out of reach for most families, while more than two thirds were worried that their children will not live as well as they do" (Minsky and Whalen, 1996. p. 8).

Minsky died shortly after he wrote these words. He had been hopeful when President Clinton took office in 1992; however, by 1996 Minsky worried that money manager capitalism had forced a "race to the bottom" by job- and wage-cutting. Ironically, a boom was just getting under way—the so-called Goldilocks economy (it was called the Goldilocks economy because it grew fast enough to create jobs but not so rapidly as to generate inflation), which appeared to have restored the kind of growth America had last seen in the 1960s.

But appearances can be deceiving! As we now know, Goldilocks was blowing bubbles, fueled by Wall Street's excesses. The economy stumbled in 2000 but then resumed growth in the mid-

2000s—fueled by the real estate and commodities markets bubbles—before finally collapsing into the Global Financial Crisis. Let's see what went wrong.

Financial Bubbles, Goldilocks Growth, and Government Budgets

From the 1980s, the financial sector grew relative to the non-financial sectors (manufacturing, agriculture, and nonfinancial services, including government)—by the time of the GFC, the financial sector accounted for 20 percent of U.S. national value added and 40 percent of corporate profits. By itself, it was an autonomous source of growth and also of rising inequality because of high compensation in the sector. Up to half of the college graduates from the elite colleges went into the financial sector because rewards there could be far higher than in other sectors.[18] Compensation at the very top quite simply exploded.

This became fairly obvious by the time of the Clinton administration—with worker income lagging behind and with loss of U.S. manufacturing jobs, the financial sector played a big role in the Clinton recovery of the 1990s. Indeed, economic growth was sufficiently robust, and the boost to income at the very top caused federal government tax revenues to grow swiftly.

During Clinton's second term, the federal government's budget went into significant surplus for the first time since the late 1920s. Although most economists thought that was good and celebrated the President's projection that the surpluses would continue for at least fifteen years, allowing all federal debt to be retired, a few of us at the Levy Economics Institute (where Minsky was employed until his death in 1996) argued that the surplus would be shortlived—and that it would kill the boom and cause a deep recession.[19]

Here's why. Wynne Godley at the Levy Institute had developed a "three balances" approach to macroanalysis based on the accounting identity that the sum of the balances of the domestic private sector, the government sector, and the foreign sector must be zero. Although any one of these could run a surplus, at least one of the others would have to run a deficit.

In the case of the United States, by the late 1990s the government sector was running a surplus of about 2.5 percent of GDP, the foreign balance was 4 percent of GDP (meaning that the United States was running a trade deficit so the rest of the world had a surplus), and by identity the U.S. private sector (firms plus households) had a deficit of 6.5 percent (the sum of the other two). In other words, the private sector was spending $106.50 for every hundred dollars of income. Each year that the private sector spent more than its income, it went more deeply into debt.

This was the ugly side of money manager capitalism: the growth of financial assets under management was equal to the growth of financial liabilities of *somebody*. (For every financial asset, there is an equal financial liability.) At the Levy Institute, we believed that the private sector debt load would become too great, causing borrowing and spending to fall. Then the economy would slip into recession. That in turn would cause job losses and force defaults on some of the debt. We believed that would set off a severe financial crisis.

At the beginning of 2000, that appeared to be happening, but it turned out that the crisis was not as severe as we had expected. The dot-com bubble went bust and stock markets tanked. The private sector retrenched—spending less than its income—and the Clinton budget surpluses morphed into deficits. The Fed responded by lowering interest rates as the big budget deficits expanded—just as we had expected.

And then something amazing happened: the American consumer started borrowing again—at a pace even greater than during the Clinton boom. Much of that was to finance housing purchases and to buy big-ticket consumer items financed through "cash-out equity finance"—taking out second mortgages against homes.

In other words, the U.S. real estate boom had begun. From 1996 to 2006, U.S. households spent more than their incomes, with only the brief respite in the recession of 2000. Nothing like this had ever happened before.[20] And it was aided and abetted by the practices of the money managers, inducing homeowners to go deeply into risky mortgage debt, which was then securitized and sold into portfolios managed by money managers.

By 2007, the U.S. ratio of total debt to GDP reached an all-time peak of 500 percent, or five dollars of debt to service using each dollar of income.[21] Whereas much discussion in the early 2000s focused on the government debt ratio, the debt of the household sector, as well as nonfinancial business and financial business, were all much higher as a percentage of GDP.

Nonfinancial business debt was actually not a huge problem in spite of its size because much of this debt was caused by long-term finance of capital equipment—and after 2000, U.S. nonfinancial businesses actually did not borrow much. Household debt *was* a huge problem, of course, and still weighs heavily on consumers half a decade after the GFC, slowing recovery.

But what was particularly unusual, and had long been ignored, was the unprecedented rise of financial sector indebtedness, which reached 125 percent of GDP. As we discuss in the next section, that is one aspect of "financialization" of the economy, with financial institutions layering debt on debt as they issued liabilities to one another to finance purchases of a wide variety of esoteric and ultimately dangerously risky assets—including trashy securities but also various kinds of derivatives that were little more than gambling bets.

The biggest political problem created from the experience of the Clinton years is that the wrong lesson was learned. The Clinton administration and many Democrats continue to believe that the budget surpluses were good for the economy; indeed, they argue that the Goldilocks growth was *caused* by government budget surpluses. They point to the Bush deficits that followed the recession in 2000 as an example of mismanagement of the budget. And so when the GFC finally hit the economy, they joined with Republicans in keeping the fiscal response too small, arguing that budget deficits are dangerous when too large.

When the economic slowdown began to lower tax revenues after 2008, the new Obama administration saw the budget deficit explode to 10 percent of GDP—the highest since World War II. This explosion generated concern about deficits that made it difficult to get support for stimulus on the appropriate scale.[22] As a result, the economy would not recover robustly.

The correct lesson should have been the view propagated at the Levy Institute, following the work of Minsky and Godley: the Clinton budget surpluses were dangerous because they implied private sector deficits that were unsustainable. Economic growth was fueled by bubbles, especially in real estate, and these bubbles required growing debt throughout the private sector. When private debt became too big, consumers stopped borrowing and the bubble collapsed.

Far from being dangerous, the growing budget deficits of "Big Government" were necessary to prevent the GFC from deteriorating to another Great Depression. Still, even more fiscal stimulus was needed to proactively boost recovery. But that couldn't happen because economists and policy makers had learned the wrong lesson from the Clinton years—it was actually the robust growth that boosted tax revenues and resulted in unsustainable budget surpluses. The surpluses were unsustainable because they required deficits in the private sector that generated too much *private* debt.

Financialization, Layering, and Liquidity

We need to understand one final aspect of the rise of money manager capitalism. Earlier, we mentioned that the financial sector's debt reached 125 percent of GDP. This is the debt of one financial institution to another. Most of it was very short term, even overnight. This is the "financialization" and "layering" that many economists now recognize: debt on debt on debt. Let us see what this means.

What financial institutions had done was to shift the source of their finance from deposits (household checking accounts and saving deposits) to financing positions in assets by issuing mostly short-term, nondeposit liabilities held by other (mostly "shadow") financial institutions. In other words, rather than bank indebtedness to households (demand and time deposits), banks owed debt to other financial institutions—often shadow banks. The shadow banks in turn might also owe debts to other financial institutions, which finally offered "depositlike" liabilities to households. In that case, we would have two layers of financial institution indebtedness between the bank and the households.

In the old days, a bank would make a loan (such as a commercial loan to a firm or a mortgage loan to a home buyer) and issue a deposit (to a firm or household). In this case, the bank directly funds its position in the loan by issuing a deposit to a household or firm. There is no layering, that is, issuing liabilities to other financial institutions to fund positions in loans (assets). Though the loan might be risky, the deposit is not. Household bank deposits are insured by the government (FDIC insurance), and banks have essentially unrestricted access to the Fed should they need to cover withdrawals. As such, runs on bank deposits are virtually a thing of the past—they almost never happen in the United States any more. So bank deposits are a stable funding source for banks that make loans or buy mortgage-backed securities (MBSs) or other assets.

As an example of layering, a bank now purchases MBSs and other assets by issuing short-term nondeposit liabilities such as commercial paper that might be bought by a money market mutual fund (MMMF) that issues depositlike liabilities to firms and households. Since the bank's funding source is short term (often overnight), it would need to "roll over" the liabilities as they mature (i.e., the next morning). There is a chance that the MMMF might refuse rollover and insist on "cash." That is the modern equivalent to a "run"—no longer on deposits but rather on short-term nondeposit liabilities. (It is actually much more complicated than that because there can be several layers and much more complicated financial arrangements—including "insurance" with derivative bets.)

Here's the problem: When U.S. mortgage markets tanked and bad reports were coming out about crashing market values of MBSs, households did not need to worry about their insured deposits. But the MMMFs worried about the uninsured commercial paper issued by banks—if the MBS assets were bad, the banks were in trouble, so their commercial paper was risky, too. That led to a run out of commercial paper and all kinds of other nondeposit liabilities, meaning that banks had trouble refinancing their positions (in MBSs and other assets)—and they could not simply sell the MBSs because there was no longer any market for them (because no one could obtain the short-term finance to buy them).

The MMMFs in turn suffered losses on their assets—since fire sales drive down asset prices. That created concern that their liabilities might "break the buck," falling below par against cash. So, finally the holders of "deposits" in MMMFs *did* run out of them because they were not insured—in a crisis these no longer looked like traditional bank deposits.

Suddenly there was a "liquidity crisis"—a run into the most liquid and safe assets (insured deposits plus federal government debt) and a run out of almost everything else.

Since financial institutions relied so much on borrowing from each other and because they no longer trusted each other, the entire global financial system froze. Without government intervention, all financial institutions would have to "sell out position to make position," as Minsky put it, meaning sell their assets because they could no longer finance them.

And that situation would lead to a Fisher–Minsky type debt deflation dynamic because with no buyers, prices of financial assets would collapse. That is precisely what had happened in the 1930s. It began to happen again in 2007–2008.

Policy Response to the GFC

Minsky believed that the Big Bank and the Big Government are lasting legacies from the Great Depression that help to constrain the natural instability of our market economy. In a downturn, the budget moves toward deficit and the central bank acts as lender of last resort.

The first is more-or-less automatic since some kinds of spending (say, unemployment compensation) increase in response to rising unemployment, and taxes fall as incomes fall. The impact of Big Government can also be enhanced through discretionary spending increases or tax cuts—this is called a fiscal stimulus package. And when the GFC hit, the new administration of President Obama did rush through such a package that amounted to about $800 billion over two years.

In addition, the automatic stabilizers added much more to the budget deficit, which eventually reached almost $1 trillion a year at the peak. Though many observers argued that the fiscal stimulus package was too small, there's not much doubt that the downturn would have been worse without the countercyclical movement of the government's budget.

The Fed's response to a crisis is not so automatic, but lender of last resort operations are relatively routine. It has been recognized for well over a century that the central bank must intervene as "lender of last resort" in a crisis. Walter Bagehot[23] explained this as a policy of stopping a run on banks by lending without limit, against good collateral, and at a penalty interest rate.[24] This process would allow the banks to cover withdrawals so that the run would stop. Once deposit insurance was added to the assurance of emergency lending, runs on demand deposits virtually stopped.[25]

However, as we have discussed, banks have increasingly financed their positions in assets by issuing a combination of uninsured deposits plus short-term nondeposit liabilities. Hence, the GFC actually began as a run on these nondeposit liabilities, which were largely held by other financial institutions. Suspicions about insolvency led to refusal to roll over short-term liabilities, which then forced institutions to sell assets. In truth, it was not simply a liquidity crisis but also a solvency crisis brought on by risky and in many cases fraudulent practices.[26]

Government response to a failing, insolvent bank is supposed to be much different than its response to a liquidity crisis: government is supposed to step in, seize the insolvent institution, replace the management, and begin a resolution. Indeed, in the case of the United States, there is a mandate to minimize costs to the Treasury (the FDIC maintains a fund to cover some of the losses so that insured depositors are paid dollar for dollar). Normally, stockholders lose, as do the uninsured creditors—which in the case of the GFC would have included other financial institutions.[27]

However, rather than resolving institutions that were probably insolvent, the Fed, working with the Treasury, tried to save them—purchasing troubled assets, recapitalizing them, and providing loans for long periods. Yet the crisis continued to escalate—with problems spilling over to insurers of securities, including the "monolines" (which specialized in providing private mortgage insurance), and then to AIG (which had provided "credit default swap" insurance), to all of the investment banks, and finally to the biggest commercial banks.[28]

With Congress reluctant to provide much funding,[29] the Fed and Treasury gradually worked out an alternative. The "bailout" can be characterized as "deal making through contracts" as the Treasury and Fed stretched the boundaries of law with behind-closed-doors, hard-headed negotiations. Where markets would shut down an insolvent financial institution, the government would instead find a way to keep it operating.[30]

The other unusual aspect of the approach taken this time was that assistance was provided through special facilities created by the Fed to provide loans as well as to purchase troubled assets (and to lend to institutions and even individuals that would purchase troubled assets). The Fed's actions went far beyond "normal" lender of last resort operations.

First, it is probable that the biggest recipients of funds were insolvent. Second, the Fed provided funding for financial institutions (and to financial markets in an attempt to support particular financial instruments) that were not the member banks that it is supposed to support. To do so, it had to make use of special sections of the Federal Reserve Act, some of which had not been used since the Great Depression.

The scale of this intervention was unprecedented, if we were to add up Fed lending through special facilities over time to obtain a cumulative measure of the Fed's response, counting every new loan originated over the course of the life of each special facility created to deal with the crisis. This scale indicates just how unprecedented the Fed's intervention was in terms of both volume and time—more than $29 trillion of loan originations through November 2011.[31] Borrowers were mainly the biggest financial institutions (including foreign banks), plus foreign central banks.

Most of these big banks borrowed over and over, for periods up to and exceeding two years. There are two reasons why these banks borrowed from the Fed day after day and year after year. First, they were having trouble borrowing in markets, which suspected that they were not healthy and therefore too risky. Second, the Fed was charging exceedingly low rates—well below market rates. The lending at heavily subsidized rates represents another kind of "bailout" for the biggest banks since they paid low rates on these loans relative to the interest they earned on their assets, generating profits and restoring health.

Finally, as it wound down the special facilities, the Fed undertook a new program—quantitative easing (QE). Through this program, the Fed embarked on a buying spree that saw its balance sheet grow from well under $1 trillion before the crisis to $4.5 trillion as the crisis dragged on; bank reserves increased by a similar amount as the Fed's balance sheet exploded. QE included asset purchases by the Fed that went well beyond treasuries—as the Fed bought troubled mortgage-backed securities. In the beginning of 2008, the Fed's balance sheet was $926 billion, of which 80 percent of its assets were U.S. Treasury bonds; in November 2010, its balance sheet had reached $2.3 trillion, of which almost half of its assets were MBSs.

What Would Minsky Think of the Response?

Surprisingly, though the Fed and Treasury intervened heavily to rescue troubled financial institutions, no significant financial reforms made it through Congress (we will not address in detail Dodd–Frank legislation to “reform” banking, but its measures have been delayed, are too weak, and have already been weakened further on implementation).[32]

That situation was different from the experience in the 1930s, when the financial system was thoroughly revamped. What are banks to learn if they are rescued after engaging in exceedingly risky behavior that crashes the system? What they probably learned is that there are no consequences, and Congress will allow them to do it again. In short, the “bailout” promoted moral hazard.

What should have been done? If we had followed normal U.S. practice, we would have taken troubled banks into “resolution.” The FDIC should have been called in (in the case of institutions with insured deposits), but in any case, the institutions should have been dissolved according to existing law—at least cost to Treasury and to avoid increasing concentration in the financial sector. Dodd–Frank does in some respects codify such a procedure (with “living wills,” etc.), but it now appears unlikely that these measures will ever be implemented—and it is not clear that even if fully implemented they would be the best way to deal with a crisis.

It would be interesting to hear Minsky’s views on the rescue of the system. There’s little doubt that he would argue that the Big

Government's deficit had played a tremendously important role in ensuring that the economy did not spiral downward into another Great Depression. He might argue that a more proactive fiscal policy would have limited the damage and might have even resulted in a smaller budget deficit.

Budget deficits can be generated in a "good" way or in a "bad" way. If government recognizes that the economy is slipping into a deep recession, it can use discretionary policy to ramp up spending and cut taxes. If the fiscal stimulus comes quick enough, it can prevent unemployment from rising so high that tax revenues plummet. In that case, only a small budget deficit might be sufficient to prop up profits, incomes, and employment—turning the economy around.

Alternatively, if the stimulus is too small or too late, the downturn will be more devastating—with unemployment rising toward double digits and profits collapsing. If pessimism sets in, private spending is curtailed and the budget deficit grows (tax revenues fall and social spending rises).

In the case of the response to the GFC, the deficit increased for both good and bad reasons. As discussed, Congress passed a fiscal stimulus of $800 billion spread over two years—that would lead to a "good" deficit. However, most of the increase of the deficit occurred the "bad" way—rising because spending increased for unemployment compensation and food stamps, even as tax revenue fell because of stubbornly high unemployment.

Turning to the "Big Bank," Minsky probably would give that mixed marks, too. He had long argued that in a crisis, the central bank needs to provide liquidity quickly and without limit. He also advocated extension of lender of last resort support to "nonbank banks"—what we call shadow banks. This is what the Fed did through its alphabet soup of special facilities. He would probably have supported the Fed's broad liquidity support.

Minsky would have criticized the Fed for taking too long to figure out how to provide the liquidity that markets needed. In most cases, the Fed made loans through the special facilities, auctioning predetermined amounts to bidders at interest rates that were supposed to mimic prices set in auctions. Effectively, this amounted to a quantity constraint, although the Fed would offer more funds in yet another auction.

Minsky might wonder why the Fed did not understand that it should offer an unlimited supply of funds at an announced "price" (interest rate)—rather than rationing the supply and taking bids on interest rates borrowers were willing to pay. Furthermore, he would probably criticize the Fed for auctioning the funds rather than forcing borrowers to the discount window. As we'll see in the next chapter, Minsky advocated discount window lending over open market operations with reserves provided through Fed purchases of assets. This choice is because the Fed would get a chance to look at the "books" (assets and liabilities) of institutions borrowing at the discount window.

Apparently, the Fed developed the auctioning procedure because it feared that if financial institutions borrowed at the discount window, markets would take this as a signal that the borrowers were in trouble. That might hurt their stock prices and perhaps credit ratings—making it harder for them to raise funds in private markets. There is no doubt that this fear has some validity.

However, in a liquidity crisis, wide swaths of the financial system simultaneously face trouble. This was especially true given the degree of layering of the financial system by 2007. Since financial institutions owed each other, if one could not raise funds, it would not be able to make payments to another—which would then have knock-on, or secondary, effects as all financial institutions simultaneously faced trouble raising funds. This phenomenon is precisely why Minsky argued that lending would have to be available across the entire financial system. But rather than auctioning reserves, he would have opened the discount window widely, providing reserves without a quantity constraint but at a Fed-determined interest rate.

Minsky might object to the “bailout” because it looks like the Fed and Treasury were trying to save insolvent financial institutions. Back during the savings and loan crisis of the 1980s, Minsky had recalled the method used by President Roosevelt to resolve failing banks in the 1930s. First, Roosevelt imposed a “bank holiday” in which all banks were temporarily closed. He appointed Jesse Jones to oversee the process of reopening banks: healthy ones reopened quickly, and those deemed hopeless were permanently shut down.

Banks with some possibility of recovery were allowed to reopen but only after top management was replaced and after the government injected capital into them. This method effectively amounted to a “nationalization” of banks thought to be too unhealthy to make it on their own but possibly worthy of redemption. Surprisingly, this resolution worked extremely well—most of the nationalized banks recovered and paid back the equity funds provided by Uncle Sam with a profit!

Because Minsky died in 1996, we’ll never know whether he would have recommended a similar procedure in dealing with troubled banks during the GFC, but it seems quite likely. One thing we can be sure of is that Minsky would not have advocated trying to “reboot” money manager capitalism by bailing out the biggest banks and the practices that had brought on the GFC.

Minsky always argued that one of the good things about great depressions accompanied by deep financial crises is that they “cleanse” the system of debt and risky practices. Highly indebted firms and financial institutions would fail, and the practices that brought them down would be avoided after recovery.

That does not mean that Minsky welcomed such crises because the economic costs are too great. In the era of the Big Bank and the Big Government, we had not had any great depressions—and Minsky thought that was a good thing. As emphasized above, Minsky would praise the Big Bank and Big Government for preventing another great depression this time.

However, he would worry that by rescuing those behemoths that had played the biggest role in bringing on the crisis, few lessons would have been learned. A half dozen years after the crisis began, those same institutions were engaging in many of the same dangerous practices. And money manager capitalism had essentially been restored—with little real reform.

In the next chapter, we look at Minsky's recommendations for reform of the financial sector. In the final chapter, we investigate his proposal to develop a better form of capitalism.