



# *Policy Note*

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## **DOES THE UNITED STATES FACE ANOTHER MINSKY MOMENT?**

L. RANDALL WRAY

Outgoing governor of the People's Bank of China, Zhou Xiaochuan, recently sounded an alarm about the fragility of China's financial sector, referring to the possibility of a "Minsky moment." Paul McCulley coined the term and applied it first to the serial bursting of the Asian Tiger and Russian bubbles in the late 1990s, and later to our own real estate crash in 2007 that reverberated around the world as the global financial crisis (GFC). We are still mopping up after the excesses in the markets for mortgage-backed securities, collateralized debt obligations (squared and cubed), and credit default swaps.

Governor Zhou's public warning was unusual and garnered the attention he presumably intended. With the 19th Communist Party Congress in full swing in Beijing, there is little doubt that recent rapid growth of Chinese debt (which increased from 162 percent to 260 percent of GDP between 2008 and 2016) was a topic of discussion, if not deep concern.

Western commentators have weighed in on both sides of the debate about the likelihood of China's debt bubble heading for a crash. And yet there has been little discussion of the far more probable visitation of another Minsky moment on America. In this policy note, I make the case that it is beginning to look a lot like déjà vu in the United States.

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Senior Scholar L. RANDALL WRAY is a professor of economics at Bard College.

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## Who Was Minsky and Why Should We Care?<sup>1</sup>

Hyman P. Minsky was an economist who studied at Harvard under both Alvin Hansen (secular stagnation) and Joseph Schumpeter (innovation and creative destruction). Beginning in the late 1950s, he developed a theory of the natural evolution of the financial structure from robust and safe to fragile and crisis prone. He presciently predicted that the early postwar period would be relatively stable (unlike his more pessimistic mentors), but insisted that “stability is destabilizing” because it would encourage ever-more risky behavior.

Just as he predicted, America’s postwar economy avoided a financial crisis for the first two decades, until the municipal bond crisis of 1966 required a quick policy response to contain the fallout—a process that was repeated every few years over the next two decades as crises came more frequently and with greater punch. In 1982, Minsky published a book titled *Can “It” Happen Again?*—and by “It” he meant another Great Depression in conjunction with a nearly complete collapse of the financial system. At that time, he answered “no.” While the financial system had become more fragile, he was convinced that policymakers had sufficient determination and competence to rescue it.

However, he began to change his mind in the 1990s. Finance had ballooned relative to the size of the economy, with the great hegemonic financial institutions considered “too big to fail.” Top management of the biggest banks took advantage of the “Greenspan put”<sup>2</sup> to ramp up risk, permitted by innovation as well as deregulation. Before he died in 1996, Minsky began to wonder if our policymakers still had the determination and competence that would be required. Just over a decade later, those policymakers were tested. They were bent, but they were not broken. “It” did not—quite—happen again.

There was one important lesson learned in the 1930s that was not applied in response to the GFC. When President Roosevelt took office, he immediately invoked a “bank holiday” that shut down all the banks. He put Jesse Jones, who proved to be a harsh taskmaster, in charge of reopening them. If he did not believe a bank could recover, he shut it down (Jones 1951). If it needed help, he “nationalized” it by putting it under partial government ownership to better control it. He insisted on receiving resignation letters from top management, to keep in his drawer should he ever need to get rid of recalcitrant managers. The entire financial system was downsized, regulated, supervised, and domesticated.

We did not do that this time, and our financial system remains far bigger (relative to the size of the economy) and far more dangerous than it was on the eve of the Great Depression. Indeed, it is arguably worse than it was on the eve of our last Minsky moment in 2007. Our “too-big-to-fail” institutions actually have bigger market shares than they had before the GFC. And nothing significant has been done about the financial institutions operating in the shadows. As Eugene Ludwig (2016), former Comptroller of the Currency, argued: “While reforms adopted since the financial crisis have placed stiff rules around the regulated financial sector, we’ve seen essentially none for the non-regulated or shadow financial sector. That means that many, if not all, of the practices that led to the last financial crisis can be practiced almost without restraint in the shadow system.”<sup>3</sup>

## How Bad Is It?

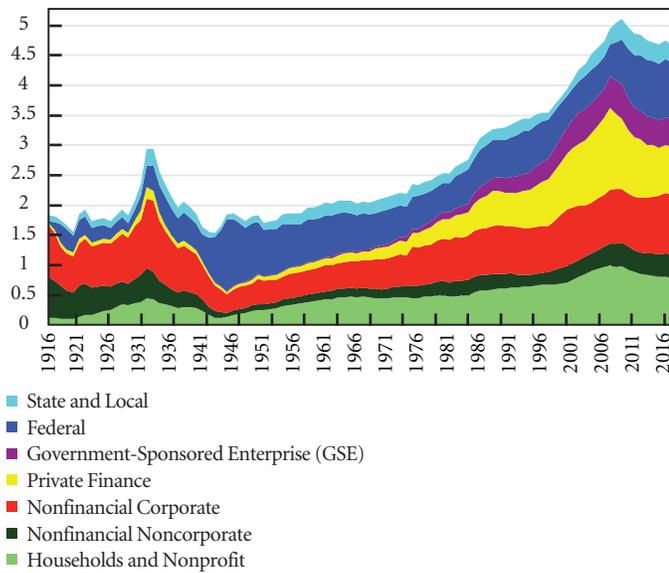
In the run-up to the Great Depression, total US debt to GDP reached nearly 300 percent. After the crash in the early 1930s, it fell to well under 200 percent over the following decade. Some of the decline was due to bankruptcy, some was due to debt repayment, and much of it was due to growth of GDP as the economy recovered. Importantly, note that nongovernment debt fell to about 50 percent of GDP, while government debt expanded to 100 percent of GDP—mostly due to war spending.

Over the early postwar boom, the government debt ratio declined steadily, not because bonds were repaid (they were not!) but because GDP grew. But after the sharp drop in the 1930s and 1940s, the private sector debt ratio began to grow on trend, slowly in the 1960s, but more rapidly over time, and with an accelerating rate after the mid-1990s. This was true of both corporate debt as well as household debt. This helped to boost the total debt ratio to an even higher peak on the eve of the GFC—to 500 percent of GDP (see Figure 1).

However, the truly remarkable feature of the later postwar period was the growth of debt in the financial sector itself. We could call this financialization, financial sector leveraging, or financial layering of debt-on-debt. This grew to 137 percent of GDP by the time of the GFC—more than household debt (100 percent), nonfinancial corporate debt (90 percent), or government debt (80 percent).

What is financialization? Financial institutions issuing liabilities to other financial institutions in order to leverage up

**Figure 1 Ratio of Total Liabilities to GDP**



*Note:* The government sector excludes all financial activities of the government (retirement funds, Ginnie Mae, etc.). The GSE sector includes government-sponsored enterprises and agency- and GSE-backed mortgage pools (includes, among others, Ginnie Mae and Federal Housing Administration pools). “Financial” excludes the GSE sector and monetary authorities (which are both part of the financial sector in the Flow of Funds accounts). Before 1945, liabilities for financial institutions are computed from Census Bureau data by taking all the liabilities (excluding equity) of commercial banks, credit unions, savings institutions, life insurance stock companies, and property and life insurance companies, and by removing private bank notes, all deposits, and life insurance reserves. From 1945, the total liabilities of the financial sector excludes net interbank liabilities of commercial banks, liabilities of monetary authorities, private and public pension fund liabilities, money market mutual fund shares, mutual fund shares, and the items previously cited. The liabilities of monetary authorities are not included anywhere.

*Sources:* Historical Statistics of the United States: Millennial Edition (Tables Ca9–19, Ce42–68, Cj265–272, Cj362–374, Cj389–397, Cj437–447, Cj748–750, Cj751–765, Cj787–796, and Cj870–889), Historical Statistics of the United States: Colonial Times to 1970 (Series X 689–697); NIPA; Flow of Funds (from 1945)

as they buy financial assets. Rather than issuing plain-vanilla deposits to households or firms, the modern behemoths issue short-term debt (often overnight) to take positions in assets. This can go to the third, fourth, or nth degree, as buyers of financial-institution debt issue debt to other financial institutions to finance their own positions—and so on, through a chain of borrowing from one another.

The productive part of our economy generates the income flows (wages, profits, and rents) that service the private sector’s debt (interest and principal on household and corporate debt). Looked at from that point of view, when the GFC broke out there was a dollar of income to service two dollars of household and nonfinancial corporate debt. (Governments plus

nonfinancial, noncorporate businesses and farms accounted for another \$1.75 of debt to service per dollar of income.)

Financial institutions’ leveraging of debts-on-debts added another \$1.37 of debt to service—in the form of extra interest, fees, and penalties—for every dollar of income. This debt service must come from the income-generating part of the economy, reducing net income that can be used to purchase output of final goods and services. Ultimately, that indebtedness within the financial sector gets serviced by the equivalent of a tax levied on the debts of the household and business sectors.

While financial sector indebtedness was occasionally noticed before the GFC, it was generally dismissed as unimportant. Surely all this debt within the financial sector nets to zero? Bank of America owes Citibank, which owes JPMorgan, which owes Bank of America—it is internal to the financial sector. So long as all the banks keep paying each other, it is just a nice virtuous circle, or so it was assumed.

However, this is where the GFC began: the big financial institutions were relying on short-term, often overnight, liabilities such as commercial paper that had to be rolled over each morning in order to finance their positions in assets. Suddenly, the purchasers of such debt (for example, money market mutual funds) decided they would rather have cash than continue to buy bank debt. The biggest banks that could not refinance their positions were forced to sell assets, which depressed asset prices so that more would have to be sold to cover positions. All it took to bring down the entire financial superstructure was for a few large financial institutions to begin to doubt the quality of the assets that banks were buying.

Perhaps the best example of what can go wrong with such layering is the case of credit default swaps (CDS). The big banks were both issuers and buyers of CDSs. The seller of a CDS was effectively betting that homeowners would make their mortgage payments and keep their homes; the buyers were betting on default and foreclosure. It went much further than this, because these “synthetics” piggybacked on mortgages, so that many layers of bets could be placed on each set of mortgages. While these bets net to zero—for every buyer there is a seller—each bet is only as good as the counterparty who is promising to pay if the homeowner defaults.

As it turned out, AIG was the counterparty for many of the CDSs, and AIG was not a good counterparty! It held no reserves against all the “insurance” it had sold. It defaulted, which would have led to big losses for Goldman Sachs and many others who

thought they had “insurance” against their speculative bets. The Fed had to create a special facility to bail out AIG’s counterparties, including Goldman Sachs.

That, and many additional special initiatives by the Fed and the Treasury, rescued Wall Street and the other big players in the global financial system. The differences between the 1930s collapse and the mid-aughts GFC are obvious in Figure 1: there has been only a very modest decline of the debt-to-GDP ratio this time around—from 500 percent to 470 percent. The good thing about the Great Depression was that it sharply reversed the debt trend and was followed by a massive increase in government spending during World War II that promoted growth without private sector debt. The GFC, by contrast, did not significantly reduce debt, and the tepid growth over the past decade barely reduced the debt ratio.

Today, the financial sector’s indebtedness (debt-on-debt) stands at a still dangerously high 80 percent of GDP. This is a measure of financial sector “interconnectedness” that ought to raise concerns that failure in some part of the sector will again rapidly spiral toward what Minsky (following Irving Fisher) called a “debt deflation process.” This is what can cause “It” to happen again.

This is, indeed, what happened in the GFC, when problems in off-balance-sheet entities (special purpose vehicles) quickly broke through “Chinese walls” to infect their sponsoring US banks. The problem was greatly compounded by derivatives—off-balance-sheet contingent claims—that were supposed to protect the banks from losses, making them more willing to take on risks that they considered to be hedged. However, the “insurance” evaporated when counterparties defaulted on their promises. If one wants to take a provocative but defensible position, one could predict that the next Minsky moment—whether in China or the United States—will again begin in the shadow banks and off-balance-sheet operations, including derivatives markets.

### So Where Will the Next Minsky Moment Strike?

I think that the United States is far more likely to “win” that race to financial Armageddon. First, the private financial and non-financial debt ratio is higher in the United States than in China. Unlike many pundits, I see sovereign government debt issued by both China and the United States (as well as all the other developed, rich nations that still have their own currencies) as

free of default risk. Default on sovereign government debt is a matter of choice, never necessity. China’s leaders will not choose to default. While the current Republican control of the federal government does give one pause, I, like Winston Churchill, believe that the US government will ultimately do the right thing—validate its debts—after toying with all other possibilities. So even with a government dominated by politicians opposed to governing, we can presume there is no default risk on Uncle Sam’s commitments.

The financial press is worried about China’s debt ratio, which stands at approximately 260 percent, while Figure 1 shows the US debt ratio at 470 percent. These are not strictly comparable, as the Chinese ratio leaves out the private financial sector’s debt—but if that were struck from the US numbers, our ratio would still be around 390 percent, which is 50 percent higher than China’s. If we look deeper into the debts by sector, China looks better in terms of national government debt but worse in terms of nonfinancial business sector debt as well as local government debt.

It is difficult to compare the situations of the financial sector’s indebtedness across the two countries due to lack of data. Both the United States and China have very large shadow banking sectors, which by their very nature are hard to measure. In China, this has been estimated as high as \$18.5 trillion (most, about \$14 trillion, is in “wealth management products”) and in the United States at \$14 trillion—but as these are in the shadows, they are rough estimates (and not included in Figure 1).<sup>4</sup> In

**Table 1 Shadow Banking, USA versus China (USD billions)**

	Economic Function-Based US Shadow Banking Measure*	Shadow Banking Measure, China**
2010	12,788.7	508.1
2011	12,844.3	841.8
2012	13,291.6	1,338.8
2013	13,688.4	1,985.5
2014	14,238.6	2,747.2

\*Time series starts in 2010 due to data gaps in some jurisdiction submissions in prior years.

\*\*China’s entity types are not reflected in this year’s economic functions. The narrow measure of China’s shadow banking sector is based on other financial intermediaries (OFIs) that are involved in credit intermediation, consistent with the methodology that was utilized to derive the narrow measure in last year’s shadow banking monitoring report.

Source: Financial Stability Board (national financial accounts data; other national sources; Financial Stability Board calculations)

**Table 2 Assets of US Financial Institutions (USD billions)**

	Financial Institutions	Central Bank	Banks	Insurance Companies	Pension Funds	Public Financial Institutions	Other Financial Intermediaries
2002	42,348.1	753.6	9,674.2	4,269.7	8,775.4	5,710.8	13,164.3
2003	46,855.8	796.8	10,474.7	4,832.3	9,684.3	6,141.1	14,926.6
2004	51,738.4	841.3	11,720.1	5,289.4	10,636.5	6,269.7	16,981.5
2005	56,098.3	878.7	12,735.4	5,597.0	11,375.5	6,370.5	19,141.2
2006	61,863.9	908.2	13,932.2	6,021.0	12,187.8	6,716.2	22,098.4
2007	67,990.0	950.9	15,285.9	6,335.6	12,827.3	7,640.1	24,950.2
2008	67,332.1	2,270.7	16,891.9	5,819.9	12,105.4	8,370.6	21,873.4
2009	68,376.1	2,266.2	16,871.4	6,204.2	13,170.2	8,425.2	21,439.0
2010	69,501.3	2,451.7	17,010.1	6,528.3	14,551.3	7,861.8	21,098.2
2011	71,080.3	2,945.2	17,937.5	6,720.1	14,917.2	7,785.0	20,775.2
2012	75,183.2	2,955.0	19,269.9	7,056.9	15,725.5	7,712.1	22,463.8
2013	81,064.8	4,073.8	20,164.2	7,516.8	16,888.6	7,930.7	24,490.7
2014	85,061.9	4,555.4	21,232.7	7,814.1	17,678.5	8,044.7	25,736.4

Note: Banks refer to the broader category of deposit-taking institutions and include US holding companies. Insurance companies include property-casualty insurers and life insurers. Pension funds' assets include private pension funds, state and local government employee retirement funds, and federal government employee retirement funds.

Source: Financial Stability Board (national financial accounts data; other national sources; Financial Stability Board calculations)

**Table 3 Assets of Financial Institutions, China (USD billions)**

	Financial Institutions	Central Bank	Banks	Insurance Companies	Pension Funds	Other Financial Institutions
2003	4,209.6	749.1	3,341.7	110.2	N/A	8.6
2004	4,930.3	950.3	3,817.9	143.2	N/A	18.8
2005	6,139.0	1,284.7	4,643.0	188.7	N/A	22.7
2006	7,601.7	1,646.6	5,628.3	252.7	N/A	74.1
2007	10,085.5	2,315.5	7,025.2	397.1	1.2	346.6
2008	12,955.6	3,030.1	9,240.0	489.0	6.9	189.7
2009	15,886.9	3,332.3	11,645.0	595.1	10.4	304.2
2010	19,871.9	3,914.9	14,390.7	762.3	15.7	788.3
2011	24,482.8	4,459.3	17,979.5	954.4	21.9	1,067.6
2012	28,735.9	4,686.0	21,258.8	1,170.1	32.0	1,589.1
2013	33,674.8	5,203.9	24,824.1	1,359.5	40.9	2,246.3
2014	38,423.2	5,527.8	28,163.7	1,660.8	51.7	3,019.2

Note: Banks refer to the broader category of deposit-taking institutions. For pension funds, the table presents assets under management. The OFI assets series contains breaks in 2010 due to different starting points for data collection in some OFI subsectors.

Source: Financial Stability Board (national financial accounts data; other national sources; Financial Stability Board calculations)

both countries, the shadow banks are closely tied to the banking system. If the crisis starts in the shadow banks, it can spread quickly to the regulated banks. Table 1 compares the size of each nation's shadow banks using a relatively narrow definition for each. In Tables 2 and 3, broader definitions are used, to include a greater range of nonbank financial institutions.

Obviously, the Chinese shadow banking sector has been growing much more rapidly since the GFC, but the scale of US shadow banking is much larger. The United States is home to

about 40 percent of global shadow banking, while China has about 8 percent (Finkle 2017). Using a broader measure of non-bank financial institutions, the US share of assets was \$25.7 trillion (up from the precrisis peak of \$25 trillion) out of a global total of \$68.1 trillion in 2014 (Finkle 2017; FSB 2015).<sup>5</sup> The US (private) financial system is much larger than that of China (including state-owned banks and enterprises). Total assets held by US private financial institutions that are not in the "shadows" reached \$80.5 trillion in 2014, up sharply from the precrisis

peak of \$67 trillion (which was reached again by 2010 with the recovery). China's total assets held by financial institutions (excluding its central bank) reached just under \$16 trillion in 2010 and nearly \$33 trillion in 2014. Depending on the method used to compare the size of the two economies, China has either already closed the GDP gap or will soon do so. Hence, while China's financial system is growing rapidly, ours is still much bigger relative to the size of our respective economies.

China has shown its willingness to move troubled assets into its large state banking system—both private debts as well as local government debts. If this should become necessary on a large scale, China will do what is required. On the other hand, the United States does not have a similarly protected system—it has a handful of huge, complex, and risky financial behemoths that likely will be the *source* of the Minsky moment, not the solution.

To be sure, neither the size nor the riskiness of the shadow banking or broader nonbank banking sectors alone can tell us that a crisis is on the horizon. Some defenders of the lesser-regulated sectors argue that because these are not protected we can just let them fail—and let their failure lead to better self-discipline. Free market-oriented analysts argue that the mistake we made last time was in trying to stop the hemorrhaging with massive interventions by the Fed.<sup>6</sup> The thinking is that if the risk is outside the regulated banking system and relatively unconnected to the “real” economy, we need not worry about it.

This ignores the tight connections between the broadly defined “nonbank sector” and “banking” narrowly defined. Not only do banks participate directly in some of the risky behaviors (discussed more below), they are also linked to nonbank financial institutions. As Eugene Ludwig (former US Comptroller of the Currency) warns:

Having participated in the rescue negotiations for Long Term Capital Management, I know how even modestly sized shadow banking operations threaten the entire financial system. These companies are inextricably linked with regulated financial institutions because they perform similar functions and are interconnected—mostly systemically as counterparties in securities and funding markets. A collapse in the shadow banking sector cannot be contained to the shadow banking sector. (Ludwig 2016)

Because of interconnectedness (much of which is hidden) and high leverage, small problems that originate in the shadows snowball through the entire financial structure.

Further, the notion that the economy will be unaffected by trillions of dollars of financial losses strains credulity. The Treasury Department estimated that the last crisis caused a loss of \$19.2 trillion of wealth as well as 8.8 million jobs (Finkle 2017, n. 65). A decade after the GFC, Americans are still suffering from permanent losses of wealth and jobs.

The last Minsky moment gave birth to the 2010 Dodd-Frank Act, which if anything makes it (somewhat) more difficult to bail out the big institutions again. It would be hard to make the case that our current policymakers are as competent and determined as those who held the positions of authority the last time the system unraveled. With a president and cabinet that appear to enjoy flouting Washington traditions, it is conceivable that they would let Citibank, Wells Fargo, or Bank of America go the way of Lehman Brothers, triggering a meltdown too big to stop. Our current policymakers in Washington probably do not instill as much confidence as do their counterparts in Beijing—or, at least, they should not.

Furthermore, China's economy grows rapidly—at a high enough rate of GDP growth, almost any debt can be serviced. (Remember that rapid US growth in the early postwar period reduced the federal government's debt ratio, and kept growth of the private sector debt ratio down.) While China's growth rate has declined, it is still nearly three times that of the US economy. Further, Chinese leadership has demonstrated its commitment to restructuring its economy by rapidly reducing emphasis on exports and focusing on building up domestic consumption supported by wage growth. Some are skeptical that China can continue this path, as it exhausts the reservoir of young rural workers; however, there are still plenty of young and bright service sector workers that can be used more efficiently.

Real wages for average workers in the United States, by contrast, remain stuck at 1974 levels, contributing to a precipitous rise in household debt as Americans try to pursue better living standards without pay increases. Policymakers will not allow the economy to grow at capacity out of fear of inflation, and the Fed has already started to throttle the tepid growth of the weakest postwar recovery. We face policy-created labor constraints as participation rates for prime-age males continue their 40-year plunge (Dantas and Wray 2017). Hopelessness in many regions of the country is reflected in falling life expectancy for white

males, in an opioid addiction crisis, and in last year's election results. Meanwhile, our current leadership in both Congress and the White House throws out retrograde "big ideas" that would likely worsen our future prospects, each one quickly abandoned when it fails to garner support outside the narrow base that elected the President.

The one proposal that made it through Congress is a tax reform bill that will shift the burden largely in the wrong direction. Leaving to the side the reduction of taxes on corporate profits (which I see as potentially helpful), Republicans would impose huge tax burdens on homeowners at a time when the residential real estate market already appears to be stumbling. As Daniel Alpert (2017) warns,

This will have deleterious effects on the disposable incomes of households in the regions of the country accounting for the bulk of mortgage (and other) debt and will make the cost of carrying real estate, on an after-tax basis, significantly greater. As income available to service debt falls and the after-tax costs of owning a home rise, property values will fall. In fact, property values—even prior to the passage of TCJA [the Tax Cuts and Jobs Act]—have already stalled out in the highest price states with the highest levels of income and property taxes. There is a reasonable chance that the latest congressional version of tax "reform" will accelerate and exacerbate what is already in the works, to the point of igniting an, arguably at least, unintended disaster.

He reminds us that the last time Republicans "reformed" tax treatment of real estate—in the Reagan administration's Tax Reform Act of 1986—they crashed real estate prices, leading to the failure of a third of all the nation's savings and loans. The current reforms would hit the nine highest-tax states hardest, which account for nearly half of the country's mortgage debt. By reducing after-tax income, these reforms will increase the burden of servicing mortgages while reducing the value of the homes. Alpert calculates that the reduction of net income in those high-tax states will total nearly 2 percent of national GDP. Both the ability to make payments and the incentive to pay will take a hit—meaning that defaults and fire sales of real estate will rise. Total mortgage debt remains at about \$10.4 trillion, and the total value of real estate stands at about \$70 trillion (the

biggest asset class in America). In spite of all the Republican hoopla about stimulating investment and growth, the more likely scenario is that higher taxes on the middle and working classes will create recessionary headwinds and problems for the financial sector.

And as if to maximize the probability of another financial crisis, the Trump administration is busy undercutting the few (all too weak) financial regulations and consumer protections put in place in the aftermath of the 2007 crash. The President has joined the big banks in attacking the Consumer Financial Protection Bureau, while Congress is rolling back the Dodd-Frank reforms. As Jared Bernstein (2017) notes,<sup>7</sup> the Treasury Department is even trying to ban the term "shadow banking," replacing it with the innocuous "market-based finance" to hide the shadowy nature of that unregulated and dangerous sector behind the feel-good cloak of a farmer's market on a sunny Sunday afternoon: "To market, to market, to buy a fat pig; home again, home again, jiggy jig." These shadowy institutions are "market based" in the same sense that gangland "protection" shakedowns are purchases of insurance. As we know, after hundreds of billions in fines paid, the markets in which the behemoth and shadow banks operate are rigged—from LIBOR to mortgage originations, securitizations, and foreclosures.<sup>8</sup>

So, when something happens in the shadows of the unregulated "market-based finance" sector, the problems will quickly infect the biggest half-dozen banks that either sell insurance or promise backup finance to the shadows, or rely on the shadows for their own finance and "insurance."

To put it simply, American prospects for growth, as well as for successfully handling the next Minsky moment, are dismal.

### **Conclusion: US Financial Conditions Should Cause Concern**

The biggest banks have resurrected many of the practices that almost destroyed them just a decade ago. Citigroup has helped to revive the synthetic collateralized debt obligation—the instrument that helped to make them insolvent a decade ago—becoming the biggest player in that \$70 billion market (Whalen 2017). Part of the reason for this is low interest spreads (between what the banks pay on their liabilities and what they earn on assets), which pushes the big banks to take on more risk by increasing the volume of their business. Minsky always warned that you cannot make up for "losses on the carry" by

simply increasing volume. If returns are too low per deal, the *correct* answer is to do fewer deals, not more. Not only does that reduce running losses, but it can help to increase the returns per deal by reducing the supply relative to demand.

Unfortunately, the reflexive instincts of the big banks lead them to increase leverage as they “double down” on low returns. In finance dominated by a few big players, competition reduces spreads, which encourages more leveraging, more innovations to create riskier products, and a greater supply of finance relative to creditworthy demand. As finance pushes into ever-more risky classes of borrowers, it reduces the reward to risk-taking so much that returns cannot cover the risk. Banks must then ignore the risk and hide it off their balance sheets, lest supervisors, credit raters, or stockholders find it.

The problems are compounded by the Fed’s quantitative easing policy, which intentionally reduced interest rate spreads; by resumed competition among big banks to revive the risky practices that brought us to the edge of the apocalypse just ten years ago; by policymakers in Washington diverted by tweets; and by a US economy with little prospect of robust growth. In the face of all these headwinds, finance ought to be substantially downsizing. Yet the big banks are leveraging up.

While the biggest banks seem to be healthy enough to pass the Fed’s “stress tests,” those tests are not that stressful and do not adequately reflect the twin dangers of off-balance-sheet leverage and the concentration of big banks’ on-balance-sheet assets in relatively low-return loans. For example, Christopher Whalen (2017) reports that Citigroup has 25 percent of its loan portfolio in commercial and industrial loans that earn just 167 basis points and another 25 percent in real estate loans that return just 262 basis points. And its cost of funds is relatively high, as it relies heavily on offshore institutional funds.

This is why the biggest banks are pushing into riskier activities such as trading and derivatives: they cannot survive on the low spreads in lending. For example, Whalen reports that Citigroup, JPMorgan, and Goldman Sachs have all been increasing their derivatives business over the past year—with each of them holding \$40 trillion to \$50 trillion in off-balance-sheet derivatives as of March 2017. He says a move of just 30 basis points in the derivatives book of either Citigroup or JPMorgan would wipe out their capital; a move of just 7 basis points would wipe out the capital of Goldman Sachs, giving “Goldman Sachs an effective leverage ratio vs its notional OBS [off-balance-sheet] derivatives exposures of 8,8000 to 1.” He concludes that

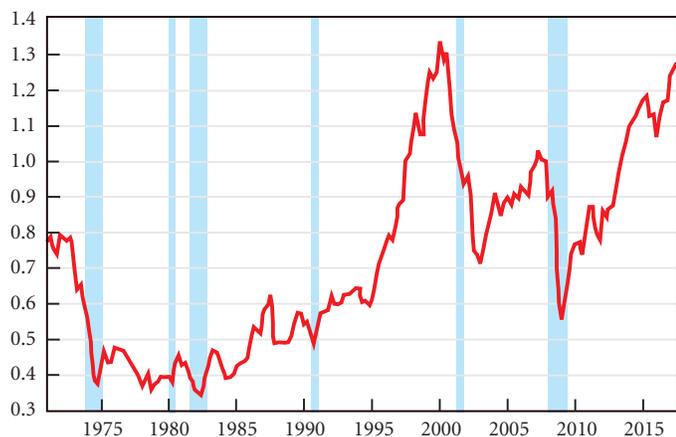
“larger institutions suffer from a fatal lack of profitability that ultimately dooms them to commit fraud and, eventually, suffer a catastrophic systemic risk event.”<sup>9</sup>

US equity markets have also bubbled up significantly over the past year, even as we have seen one of the biggest declines of volatility in history (Minkoff 2017). Over the year since Election Day 2016, the Dow was up 32 percent, the S&P 500 was up 24 percent, and Nasdaq was up 35 percent. This is the third stock market bubble in the United States since the late 1990s—something the world has probably never experienced before. As Edward Chancellor (2009) observed,

Nobel economics laureate Vernon Smith has demonstrated in classroom experiments how momentum traders can push share prices away from fair value. Smith found that one crash was not sufficient to change behavior. Traders become prudent only after a second market collapse. The motto of the broken speculator might read “Twice bitten, thrice shy”. . . . A survey of 12 such events—from the British railway mania of the 1830s to the Saudi Tadawul bubble of 2005—shows that echo bubbles have common characteristics. The typical one lasts longer than a bear market rally but not as long as the bubble that preceded it. On average, echo bubbles climb for ten months from trough to peak. Furthermore, the echo is proportionate in size to the earlier boom, averaging roughly one third of its size.<sup>10</sup>

That did not work this time, and the United States entered echo-echo bubble territory midway through the recovery as stock prices exceeded the first echo bubble’s peak (see Figure 2, where three peaks are obvious, even scaled by GDP). Stephanie Landsman (2017) pointed out that the S&P 500 “has closed in all-time high territory 43 times this year. It’s now up 19 percent since November’s presidential election,” nearing its peak reached before the GFC (relative to GDP). Ed Yardeni explained that “A melt-up to a certain extent kind of creates its own demise. To the extent that this market continues to move higher, maybe starts to move higher at a faster pace, now that would indicate to me that a lot of investors are coming in a little late into this bull market, and doing it with ETFs [exchange-traded funds]” (Landsman 2017). In other words, we might expect that this is the last gasp as Johnny-come-latelies rush in to allow the professionals to get out before the whole thing goes

**Figure 2 Wilshire 5000 Price Index/GDP**



Source: Federal Reserve Bank of St. Louis (FRED)

bust. A Google search of the term “melt-up” shows it is trending up sharply in recent months—as market professionals cynically forecast yet another peak before the whole thing finally comes tumbling down.

While stock market busts do not always engender financial crises and economic downturns, the combination of overvalued stocks, overleveraged banks, an undersupervised financial system, high indebtedness across sectors, and growing inequality together should remind one of the conditions of 1929 and 2007.

Where will the next Minsky moment begin? It will likely begin in the US financial sector, most likely off the balance sheets of the biggest banks. This will spark a run to liquidity that causes values of all but the most liquid assets (US Treasuries) to fall, spurring fire sales of assets to cover positions (what Minsky termed “selling out position to make position”), and leading to a Fisher debt-deflation dynamic.

At that point, our fate will fall into the uncertain hands of the Trump administration.

## Notes

1. See Wray (2016) for an overview of Minsky’s work.
2. The “put” is the promise to intervene should things go wrong, making this one of those “heads I win, tails you (Uncle Sam) lose” bets.
3. Dodd-Frank did create the Financial Stability Oversight Council (FSOC), which is empowered to designate shadow bank institutions as “systemically important financial

institutions” (SIFIs) that can be subjected to rules. However, little progress has been made in reeling in the sector—in particular because what FSOC needs to do is go after risky practices instead of simply identifying a handful of dangerous institutions.

4. Paul McCulley (2007) is credited with coining the term “shadow banking.” The Financial Stability Board (FSB) estimated that shadow banking assets in 2014 totaled \$14.2 trillion for the United States (up from \$12.8 trillion in 2010) and just \$2.7 trillion for China (up from just half a trillion in 2010). A recent report by Victoria Finkle (2017) puts it at \$36 trillion globally, following FSB estimates. The US shadow banking sector is estimated at two-thirds the size of the US banking sector.
5. See also FSOC (2016).
6. As a Ford Foundation–funded project undertaken by the Levy Institute showed, the Fed originated \$29 trillion in loans—much of that to “markets” rather than directly to protected banks. See Felkerson (2012) and more at [levyinstitute.org/ford-levy/governance/](http://levyinstitute.org/ford-levy/governance/).
7. The Trump administration has also prohibited the US Centers for Disease Control and Prevention from using the following seven words: “vulnerable,” “entitlement,” “diversity,” “transgender,” “fetus,” “evidence-based,” and “science-based” (Reuters 2017).
8. See Finkle (2017) for an overview of shadow banking. To be sure, the boundary between banking and shadow banking is fuzzy. And as we saw in the GFC, the regulated banking sector is closely tied to shadow banking, so that a crisis outside the narrowly drawn banking sector quickly spills over to the biggest banks. It is virtually impossible to conceive of a way to really insulate banks from shadow banking—and the attempt to obscure reality by banning the term demonstrates how cynical Washington has become.
9. The United States is not the only country that has seen a rebound in derivatives trading: “The global market for over-the-counter (OTC) derivatives rebounded in the first half of this year, with the notional amount of outstanding contracts rising from \$482 trillion at end-December 2016 to \$542 trillion at end-June 2017, the Bank for International Settlements (BIS) has reported” (Raja 2017).

10. Bubbles are frequently followed by echo bubbles, typically significantly smaller than the original. But the collapse of the echo bubble seems to teach speculators a lesson that they carry with them over a long period of depressed markets. However, the bubble of the 1990s was followed by the echo bubble of the 2000s, followed in turn by the current bubble that grew out of the ashes of the GFC.

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