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The Shadow Banking System and Hyman Minsky's Economic Journey

As we look for answers about the current financial crisis, it's clear that creative financing played a massive role in propelling the global financial system to hazy new heights – before leading the way into the depths of a systemic crisis. But how did financing get so creative? It didn't happen within the confines of a regulated banking system, which submits to strict regulatory requirements in exchange for the safety of government backstopping. Instead, financing got so creative through the rise of a "shadow banking system," which operated legally, yet almost completely outside the realm of bank regulation. The rise of this system drove one of the biggest lending booms in history, and collapsed into one of the most crushing financial crises we've ever seen.

Perhaps the most lucid framework for understanding this progression comes from the work of Hyman P. Minsky, the mid-twentieth-century American economist whose theory on the nature of financial instability proved unnervingly prescient in explaining the rise and fall of shadow banking – and the dizzying journey of the global financial system over the past several years.

Nature and Origin of the Shadow Banking System

I coined the term "shadow banking system" in August 2007 at the Fed's annual symposium in Jackson Hole. Unlike conventional regulated banks, unregulated shadow banks fund themselves with uninsured short-term funding, which may or may not be backstopped by liquidity lines from real banks. Since they fly below the radar of traditional bank regulation, these levered-up intermediaries operate in the shadows without backstopping from the Federal Reserve's discount lending window or access to FDIC deposit insurance.

This paper is the basis for a speech I'll be giving in Tel Aviv in June, and will be part of an upcoming CFA Institute publication entitled "Voices of Wisdom: Understanding the Global Financial Crisis."

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Paul McCulley

The allure of shadow banking over the last decade or so is unambiguous: there's no better way for bankers to maximally leverage the inherent banking model than by becoming non-bank bankers, or shadow bankers. And they did this in droves, running levered-up lending and investment institutions known as investment banks, conduits, structured investment vehicles, hedge funds, etc. They did so by raising funding in the non-deposit markets, notably unsecured debt such as interbank borrowing and commercial paper, and secured borrowing such as reverse repo and asset-backed commercial paper. And usually – but not always – such shadow banks maintained a reliance on conventional banks with access to the Fed's window.

Shadow Banking's Relationship with Regulators and Rating Agencies

Since shadow banks don't have access to the same governmental safety nets that real banks have, they don't have to operate under meaningful regulatory constraints, notably for the amount of leverage they can use, the size of their liquidity buffers and the type of lending and investing they can do. To be sure, shadow banking needed some seal of approval, so that providers of short-dated funding could convince themselves that their claims were de facto "just as good" as deposits at banks with access to the government's liquidity safety nets. Conveniently, the friendly faces at the rating agencies, paid by the shadow bankers, stood at the ready to provide such seals of approval. Moody's and S&P would put an A-1/P-1 rating on the commercial paper, which in turn would be bought by money market funds. Of course, it's inherently an unstable structure. The rating agencies face an in-built problem of putting ratings on new innovations, because they haven't had a chance to observe a historical track record – to see their performance over a full cycle.

The bottom line is that the shadow banking system created explosive growth in leverage and liquidity risk outside the purview of the Fed. And it was all grand while an ever-larger application of leverage put upward pressure on asset prices. There is nothing like a bull market to make geniuses out of levered dunces.

Shadow Banking Versus Conventional Banking

Despite the extraordinary Keynesian public life-support system underway that was born of necessity to keep banks alive (and capitalism as a going concern), capitalist economies usually want their banking systems owned by the private sector. As private companies, banks make loans and investments on commercial terms in the pursuit of profit, but also in the context of prudential regulation, to minimize the downside to taxpayers of the moral hazard inherent in the two safety nets (FDIC deposit insurance and the Fed's discount window). But as is the wont of capitalists, they love levering the sovereign's safety nets with minimal prudential regulation. This does not make them immoral, merely capitalists.

Over the last three decades or so, the growth of "banking" outside formal, sovereign-regulated

banking has exploded, and it was a great gig so long as the public bought the notion that such funding instruments were "just as good" as bank deposits. Keynes provides the essential – and existential – answer as to why the shadow banking system became so large, the unraveling of which lies at the root of the current global financial system crisis. It was a belief in a convention, undergirded by the length of time that belief held: shadow bank liabilities were viewed as "just as good" as conventional bank deposits not because they are, but because they had been. And the power of this conventional thinking was aided and abetted by both the sovereign and the sovereign-blessed rating agencies. Until, of course, convention was turned on its head, starting with a run on the ABCP (asset-backed commercial paper) market in August 2007, the near death of Bear Stearns in March 2008, the de facto nationalization of Fannie Mae and Freddie Mac in July 2008, and the actual death of Lehman Brothers in September 2008. Maybe, just maybe, there was and is something special about a real bank, as opposed to a shadow bank! And indeed that is unambiguously the case, as evidenced by the ongoing partial re-intermediation of the shadow banking system back into the sovereign-supported conventional banking system, as well as the mad scramble by remaining shadow banks to convert themselves into conventional banks, so as to eat at the same sovereign-subsidized capital and liquidity cafeteria as their former stodgy brethren.

Minsky Sheds Light on Shadow Banking

The shadow banking system, from its explosive growth to its calamitous collapse, followed a path that may have looked quite familiar to the economist Hyman P. Minsky. He passed away in 1996, but his teachings and writings echo today. Building from the work of many economists before him, most notably Keynes, Minsky articulated a theory on financial instability that describes in almost lurid detail what happened in the shadow banking system, the housing market, and the broader economy that brought us to the depths of financial crisis – and he published this theory in 1986! So the first thing we do when we discuss Prof. Minsky is show reverence. He studied at Harvard and taught at Brown, Berkeley and Washington University in St. Louis. After his retirement in 1990, he continued writing and lecturing with the Levy Institute, which now hosts an annual symposium in his honor.

Minsky may well have considered himself a Keynesian economist – he published his analysis and interpretation of Keynes in 1975 – but Minsky's own theories headed off in a new direction. Keynes is, of course, a solid place to start any adventure in economic theory. Remember that Keynes effectively invented the field of macroeconomics, which is founded on the proposition that what holds for the individual does not necessarily hold for a collection of individuals operating as an economic system. This principle is sometimes called the "fallacy of composition," and sometimes called the "paradox of aggregation." But we need not resort to fancy labels to define the common sense of macroeconomics. Anybody who's ever been a spectator at a crowded ball game has witnessed the difference between

microeconomics and macroeconomics: from a micro perspective, it is rational for each individual to stand up to get a better view; but from a macro perspective, each individual acting rationally will produce the irrational outcome of everybody standing up, but nobody having a better view.

The Financial Instability Hypothesis

Minsky took Keynes to the next level, and his huge contribution to macroeconomics comes under the label of the "Financial Instability Hypothesis." Minsky openly declared that his Hypothesis was "an interpretation of the substance of Keynes's *General Theory.*" Minsky's key addendum to Keynes' work was really quite simple: providing a framework for distinguishing between stabilizing and destabilizing capitalist debt structures. Minsky summarized the Hypothesis[1] beautifully in his own hand in 1992:

> *"Three distinct income-debt relations for economic units, which are labeled as hedge, speculative, and Ponzi finance, can be identified.*
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> *Hedge financing units are those which can fulfill all of their contractual payment obligations by their cash flows: the greater the weight of equity financing in the liability structure, the greater the likelihood that the unit is a hedge financing unit. Speculative finance units are units that can meet their payment commitments on 'income account' on their liabilities, even as they cannot repay the principal out of income cash flows. Such units need to 'roll over' their liabilities (e.g., issue new debt to meet commitments on maturing debt).…*
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> *For Ponzi units, the cash flows from operations are not sufficient to fulfill either the repayment of principal or the interest due on outstanding debts by their cash flows from operations. Such units can sell assets or borrow. Borrowing to pay interest or selling assets to pay interest (and even dividends) on common stock lowers the equity of a unit, even as it increases liabilities and the prior commitment of future incomes.…*
>
> *It can be shown that if hedge financing dominates, then the economy may well be an equilibrium-seeking and -containing system. In contrast, the greater the weight of speculative and Ponzi finance, the greater the likelihood that the economy is a deviation-amplifying system. The first theorem of the financial instability hypothesis is that the economy has financing regimes under which it is stable, and financing regimes in which it is unstable. The second theorem of the financial instability hypothesis is that over periods of prolonged prosperity, the economy transits from financial relations that make for a stable system to financial relations that make for an unstable system.*
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> *In particular, over a protracted period of good times, capitalist economies tend to move from a financial structure dominated by hedge finance units to a*

structure in which there is large weight to units engaged in speculative and Ponzi finance. Furthermore, if an economy with a sizeable body of speculative financial units is in an inflationary state, and the authorities attempt to exorcise inflation by monetary constraint, then speculative units will become Ponzi units and the net worth of previously Ponzi units will quickly evaporate. Consequently, units with cash flow shortfalls will be forced to try to make position by selling out position. This is likely to lead to a collapse of asset values."

Those three categories of debt units – hedge (note: no relation to hedge funds), speculative, and Ponzi – are the straws that stir the drink in Minsky's Financial Instability Hypothesis. The essence of the Hypothesis is that stability is destabilizing because capitalists have a herding tendency to extrapolate stability into infinity, putting in place ever-more risky debt structures, up to and including Ponzi units, that undermine stability.

The longer people make money by taking risk, the more imprudent they become in risk-taking. While they're doing that, it's self-fulfilling on the way up. If everybody is simultaneously becoming more risk-seeking, that brings in risk premiums, drives up the value of collateral, increases the ability to lever and the game keeps going. Human nature is inherently pro-cyclical, and that's essentially what the Minsky thesis is all about. He says "from time to time, capitalist economies exhibit inflations and debt deflations which seem to have the potential to spin out of control. In such processes the economic system's reactions to a movement of the economy amplify the movement – inflation feeds upon inflation and debt-deflation feeds upon debt-deflation."[1]

This pro-cyclical tendency applies to central banks and policymakers as well; it is hard for me to avoid the conclusion that too much success in stabilizing goods and services inflation, while conducting an asymmetric reaction function to asset price inflation and deflation, is a dangerous strategy. Yes, it can work for a time. But precisely because it can work for a time, it sows the seeds of its own demise. Or, as Minsky declared, stability is ultimately destabilizing, because of the asset price and credit excesses that stability begets. Put differently, stability can never be a destination, only a journey to instability.

Minsky's Hypothesis richly explains the endemic boom-bust cycles of capitalism, including the bubbles in property prices, mortgage finance, and shadow banking that characterize the current bust. You may ask, why all these endemic boom-bust cycles? Isn't capitalism driven by that Smith dude's invisible hand, where markets are efficient and always find just the right prices for things through what people like me call a "discovery process?" Well, much of the time that is right – but not all the time. Indeed, the most interesting, and profitable, times to be involved in investment management are when Mr. Smith's invisible hand is visibly broken. What Mr. Minsky's Hypothesis

did was provide a framework for how and when Mr. Smith's hand would break.[2]

Minsky's Economic Journey: Forward and Reverse

In Minsky's theory, economic cycles can be described by a progression – I like to call it a "journey," in forward or reverse – through those three debt units: *hedge* financing units, in which the buyer's cash flows cover interest and principal payments; *speculative* finance units, in which cash flows cover only interest payments; and *Ponzi* units, in which cash flows cover neither and depend on rising asset prices to keep the buyer afloat.

The forward Minsky journey, this time around anyway, was the progression of risk-taking in the financial markets represented by the excess of subprime loans, structured investment vehicles (SIVs) and other shady characters inhabiting the shadow banking system. Their apparent stability begat ever-riskier debt arrangements, which begat asset price bubbles. And then the bubbles burst, in something I dubbed (years ago, in fact, when looking back on the Asian credit crisis) a "Minsky Moment." We can quibble about the precise month of the Moment in our present Minsky journey. I pick August 2007, but would not argue strenuously with you about three months either side of that date.

Whatever moment you pick for the Moment, we have since been traveling the reverse Minsky journey: moving backward through the three-part progression, with asset prices falling, risk premiums moving higher, leverage getting scaled back and economic growth getting squeezed. Minsky's Ponzi debt units are only viable as long as the levered assets appreciate in price. But when the price of the assets decline, as we've seen in the U.S. housing market, Minsky tells us we must go through the process of increasing risk-taking in reverse – with all its consequences.

The recent Minsky moment comprised three bubbles bursting: in property valuation in the U.S., in mortgage creation, again, principally in the U.S., and in the shadow banking system, not just in the U.S. but around the world. The blowing up of these three bubbles demanded a systemic re-pricing of all risk, which was deflationary for all risk asset prices. These developments are, as Minsky declared, a prescription for an unstable system – to wit, a system in which the purging of capitalist excesses is not a self-correcting therapeutic process, but a self-feeding contagion: debt deflation.

The U.S. Housing Market's Minsky Journey

The bubble in the U.S. housing market provides a plain illustration of the forward Minsky journey in action, as people bet that prices would stably rise forever and financed that bet with excessive debt. Indeed, the mortgage debt market followed Minsky's three-step path almost precisely. The first type of debt, the hedge unit, is actually quite stable – the borrower's cash flow is sufficient to both fully service and amortize the debt. In the mortgage arena, this is known as an old-fashioned loan, like

my parents had, as well as the one I used to have. Every month, you write a check that pays the interest plus nibbles away at the principal, and voila, when the last payment is made many years down the road, usually thirty, the mortgage simply goes away and you own the house free and clear. You may even throw a little party and ritually burn the mortgage note.

The next, more risky unit of debt, the speculative unit, comes about when people are so confident in stably rising house prices that they find the hedge unit to be, let us say, boring. Technically, Minsky defined the speculative unit as a loan where the borrower's cash flow is sufficient to fully service the debt, but not amortize the principal. Thus, when the loan matures, it must be refinanced. In the mortgage arena, this type of loan is called an interest only, or IO, with a balloon payment at maturity equal to the original principal amount. Thus, these types of borrowers are speculating on at least three things at the time of refinancing: the interest rate hasn't risen; terms and conditions, notably the down payment, haven't tightened; and perhaps most importantly, the value of the house hasn't declined.

Minsky taught that when credit is evolving from hedge units to speculative units, there is no fear, as the journey increases demand for the underlying assets that are being levered, and drives up their prices. Think about it this way: Most people don't mentally take out a mortgage for *X* dollars, even though they literally do, but rather take out a mortgage that requires *Y* dollars for a monthly payment. In the mortgage arena, that means that a speculative borrower can take on a larger mortgage than a hedge borrower, because the monthly payment is lower for the speculative borrower – he's paying only interest, not that extra amount every month to pay off the principal over time. Thus, the speculative borrower can pay a higher price for a house than a hedge borrower with the same income. Accordingly, as the marginal mortgage is taken down by a speculative borrower, it drives up home prices, truncating the risk that the value of the house will fall before the balloon payment comes due.

Of course, speculative financing makes sense only so long as there is an infinite pool of speculative borrowers driving up the price, de facto collectively validating the speculative risk they took. Sounds like a recipe for a bubble, no? Demographics assure us there is a finite pool of homebuyers. In this case, expectations of stably rising home prices ultimately run into the reality of affordability – but that doesn't in and of itself stop the game.

There is a final leg to a forward Minsky journey, thanks to the reality that humans are not inherently value investors, but momentum investors. Human beings are not wired to buy low and sell high; rather, they are wired to buy that which is going up in price. This seems to make no sense, particularly when there is a known limit to size and affordability constraints – why would rational people buy a house for a

higher price than other folks in the same financial circumstances could afford to pay? But we are not talking about rationality here, but human nature. They are not one and the same thing. Humans are not only momentum investors, rather than value investors, but also inherently both greedy and suffering from hubris about their own smarts. It's sometimes called a bigger fool game, with each individual fool thinking he is slightly less foolish than all the other fools. And yes, a bigger fool game is also sometimes called a Ponzi Scheme.

Fittingly, the last debt unit on the forward Minsky journey is called a Ponzi unit, defined as a borrower who has insufficient cash flow to even pay the full interest on a loan, much less pay down the principal over time. Now, how and why would such a borrower ever find a lender to make him a loan? Simple: as long as home prices are universally expected to continue rising indefinitely, lenders come out of the woodwork offering loans with what is called negative amortization, meaning that if you can't pay the full interest charge, that's okay; they'll just tack the unpaid amount on to your principal. At the maturity of the loan, of course, the balloon payment will be bigger than the original loan.

As long as lenders made loans available on virtually non-existent terms, the price didn't really matter all that much to borrowers; after all, housing prices were going up so fast that a point or two either way on the mortgage rate didn't really matter. The availability of credit trumped the price of credit. Such is always the case in manias. It is also the case that once a speculative bubble bursts, reduced availability of credit will dominate the price of credit, even if markets and policymakers cut the price. The supply side of Ponzi credit is what matters, not the interest elasticity of demand.

Clearly, the explosion of exotic mortgages – subprime; interest only; pay-option, with negative amortization; etc. – in recent years have been textbook examples of Minsky's speculative and Ponzi units. But they seem okay, as long as expectations of stably rising home prices are realized. Except, of course, they can't forever be realized. At some point, valuation does matter! How could lenders ignore this obvious truth? Because while it was going on, they were making tons of money. Tons of money does serious damage to the eyesight, and our industry's moral equivalent of optometrists, the regulators and the rating agencies, are humans too. As long as the forward Minsky journey was unfolding, rising house prices covered all shameful underwriting sins. Essentially, the mortgage arena began lending against asset value only, rather than asset value plus the borrowers' income. The mortgage originators, who were operating on the originate-to-distribute model, had no skin in the game – no active interest – because they simply originated the loans and then repackaged them.

But who they distributed these packages to, interestingly enough, were the shadow banks. So we had an originate-to-distribute model and no skin in the game for the

originator, and the guy in the middle was being asked to create product for the shadow banking system. The system was demanding product. Well, if you've got to feed the beast that wants product, how do you do it? You have a systematic degradation in underwriting standards so that you can originate more. But as you originate more, you bid up the price of property, and therefore you say, "These junk borrowers really aren't junk borrowers. They're not defaulting." So you drop your standards once again and you take prices up. And you still don't get a high default rate. The reason this system works is that you, as the guy in the middle, had somebody bless it: the credit rating agencies. A key part of keeping the three bubbles (property valuation, mortgage finance and the shadow banking system) going was that the rating agencies thought the default rates were low because they *were* low. But they were low because the degradation of underwriting standards was driving up asset prices.

Both regulators and rating agencies were beguiled into believing that the very low default rates during the period of soaring home prices were the normalized default rates for low quality borrowers, particularly ones with no down payment skin in the game. The rating agencies' Mr. Magoo act was particularly egregious, because the lofty ratings they put on securities backed by these dud loans were the fuel for explosive growth in the shadow banking system, which issued tons of similarly highly-rated commercial paper to fund purchases of the securities.

It all went swimmingly, dampening volatility in a self-reinforcing way, until the bubbles created by financial alchemy hit the fundamental wall of housing affordability. Ultimately, fundamentals do matter! We have a day of reckoning, the day the balloon comes due, the margin call, the Minsky Moment. If the value of the house hasn't gone up, then Ponzi units, particularly those with negatively-amortizing loans, are toast. And if the price of the house has fallen, speculative units are toast still in the toaster. Ponzi borrowers are forced to "make position by selling out position," frequently by stopping (or not even beginning!) monthly mortgage payments, the prelude to eventual default or jingle mail. Ponzi lenders dramatically tighten underwriting standards, at least back to Minsky's speculative units – loans that may not be self-amortizing, but at least are underwritten on evidence that borrowers can pay the required interest, not just the teaser rate, but the fully-indexed rate on ARMs.

From a microeconomic point of view, such a tightening of underwriting standards is a good thing, albeit belated. But from a macroeconomic point of view, it is a deflationary turn of events, as serial refinancers, riding the back of presumed perpetual home price appreciation, are trapped long and wrong. And in this cycle, it's not just the first-time homebuyer – God bless him and her! – that is trapped, but also the speculative Ponzi long: borrowers who weren't covering a natural short – remember, you are born short a roof over your head, and must cover, either by renting or buying – but rather

betting on a bigger fool to take them out ("make book", in Minsky's words). The property bubble stops bubbling and when it does, both the property market and the shadow banking system go bust.

When the conventional basis of valuation for the originate-to-distribute (to the shadow banking system) business model for subprime mortgages was undermined, the asset class imploded violently. And the implosion was not, as both Wall Street and Beltway mavens predicted, contained. Rather it became contagious, first on Wall Street, with all risk assets re-pricing to higher risk premiums, frequently in violent fashion, and next on Main Street, with debt-deflation accelerating in the wake of a mushrooming mortgage credit crunch, notably in the subprime sector, but also up the quality ladder.

Yes, we are now experiencing a reverse Minsky journey, where instability will, in the fullness of time, restore stability, as Ponzi debt units evaporate, speculative debt units morph after the fact into Ponzi units and are severely disciplined if not destroyed, and even hedge units take a beating. The shadow banking system contracts implosively as a run on its assets forces it to delever, driving down asset prices, eroding equity – and forcing it to delever again. The shadow banking system is particularly vulnerable to runs – commercial paper investors refusing to re-up when their paper matures, leaving the shadow banks with a liquidity crisis – a need to tap their back-up lines of credit with real banks or to liquidate assets at fire sale prices. Real banks are in a risk-averse state of mind when it comes to lending to shadow banks, lending when required by backup lines but not seeking to proactively increase their footings to the shadow banking system but, if anything, reduce them. Thus, there is a mighty gulf between the Fed's liquidity cup and the shadow banking system's parched liquidity lips.

The entire progression self-feeds on the way down, just like it self-feeds on the way up. It's incredibly pro-cyclical. The regulatory response is also incredibly pro-cyclical. You have a rush to laxity on the way up, and you have a rush to the opposite on the way back down. And essentially, on the way down, you have the equivalent of Keynes's paradox of thrift – the paradox of delevering. It can make sense for each individual institution, for a shadow bank or even a real bank, to delever, but collectively, they can't all delever at the same time.

Policy Reactions to the Reverse Minsky Journey

Along the way, policymakers have slowly recognized the Minsky Moment followed by the unfolding reverse Minsky journey. But I want to emphasize "slowly," as policymakers, collectively, tend to suffer from more than a thermos full of denial. Part of the reason is human nature: to acknowledge a reverse Minsky journey, it is first necessary to acknowledge a preceding forward Minsky journey – a bubble in asset and debt prices – as the marginal unit of debt creation morphed from hedge to speculative

to Ponzi. That is difficult for policymakers to do, especially ones who claim an inability to recognize bubbles while they are forming and, therefore, don't believe that prophylactic action against them is appropriate. But framing policies to mitigate the damage of a reverse Minsky journey requires that policymakers openly acknowledge that we are where we are because they let the invisible, if not crooked, hand of financial capitalism go precisely where Professor Minsky said it would go, unless checked by the visible fist of counter-cyclical, rather than pro-cyclical, regulatory policy.

That's not to say that Minsky had confidence that regulators could stay out in front of short-term profit-driven innovation in financial arrangements. Indeed, he believed precisely the opposite:

> *"In a world of businessmen and financial intermediaries who aggressively seek profit, innovators will always outpace regulators; the authorities cannot prevent changes in the structure of portfolios from occurring. What they can do is keep the asset-equity ratio of banks within bounds by setting equity-absorption ratios for various types of assets. If the authorities constrain banks and are aware of the activities of fringe banks and other financial institutions, they are in a better position to attenuate the disruptive expansionary tendencies of our economy."*[3]

Minsky wrote those words in 1986! Years later, we can only bemoan that his sensible counsel was ignored and the economy experienced the explosive growth of the shadow banking system, or what Minsky cleverly called *"fringe banks and other financial institutions."*

Minsky's insight that financial capitalism is inherently and endogenously given to bubbles and busts is not just right, but spectacularly right. We have much to learn and relearn from the great man as we collectively restore prudential common sense to bank regulation – both for conventional banks and shadow banks.

Meantime, we've got a problem: we're on a reverse Minsky journey. The private sector wants to shrink and de-risk its balance sheet, so someone has to take the other side of the trade to avoid a depression – the sovereign. We pretend that the Fed's balance sheet and Uncle Sam's balance sheet are in entirely separate orbits because of the whole notion of the political independence of the central bank in making monetary policy. But when you think about it, not from the standpoint of making monetary policy but of providing balance sheet support to buffer a reverse Minsky journey, there's no difference between Uncle Sam's balance sheet and the Fed's balance sheet. Economically speaking, they're one and the same.

I think we're pretty well advanced along this reverse Minsky journey, and it's a lot quicker than the forward journey for a very simple reason. The forward journey is essentially momentum-driven; there is a systematic relaxation of underwriting standards and

all that sort of thing, but it doesn't create any pain for anybody. The reverse journey, however, does create pain, otherwise known as one giant margin call. The reverse journey comes to an end when the full faith and credit of the sovereign's balance sheet is brought into play to effectively take the other side of the trade. No, I'm not a socialist; I'm just a practical person. You've got to have somebody on the other side of the trade. The government not only steps up to the risk-taking and spending that the private sector is shirking, but goes further, stepping up with even more vigor, providing a meaningful reflationary thrust to both private sector risk assets and aggregate demand for goods and services.

Thus, policymakers have a tricky balancing act: let the deflationary pain unfold, as it's the only way to find a bottom of undervalued asset prices from presently overvalued asset prices, while providing sufficient monetary and fiscal policy safety nets to keep the deflationary process from spinning out of control. Debt deflation is a beast of burden that capitalism cannot bear alone. It ain't rich enough, it ain't tough enough. Capitalism's prosperity is hostage to the hope that policymakers are not simply too blind to see.

As long as we have reasonably deregulated markets and a complex and innovative financial system, we will have Minsky journeys, forward and reverse, punctuated by Minsky Moments. That is reality. You can't eliminate them. It's a matter of having the good sense to have in place a counter-cyclical regulatory policy to help modulate human nature.

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[1] *Minsky, Hyman P., "The Financial Instability Hypothesis" (May 1992)*

[2] *Smith, Adam, Book IV of* The Wealth of Nations *(1776)*

[3] *Minsky, Hyman P.,* Stabilizing an Unstable Economy *(1986)*

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