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## Money manager capitalism and the global financial crisis

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**Working Paper No. 578**

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**Money Manager Capitalism and the Global Financial Crisis**

by

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and The Levy Economics Institute of Bard College

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## **ABSTRACT**

This paper applies Hyman Minsky's approach to provide an analysis of the causes of the global financial crisis. Rather than finding the origins in recent developments, this paper links the crisis to the long-term transformation of the economy from a robust financial structure in the 1950s to the fragile one that existed at the beginning of this crisis in 2007. As Minsky said, "Stability is destabilizing": the relative stability of the economy in the early postwar period encouraged this transformation of the economy. Today's crisis is rooted in what he called "money manager capitalism," the current stage of capitalism dominated by highly leveraged funds seeking maximum returns in an environment that systematically under-prices risk. With little regulation or supervision of financial institutions, money managers have concocted increasingly esoteric instruments that quickly spread around the world. Those playing along are rewarded with high returns because highly leveraged funding drives up prices for the underlying assets. Since each subsequent bust wipes out only a portion of the managed money, a new boom inevitably rises. Perhaps this will prove to be the end of this stage of capitalism—the money manager phase. Of course, it is too early even to speculate on the form capitalism will take. I will only briefly outline some policy implications.

**Keywords:** Hyman Minsky; Money Manager Capitalism; Financial Crisis; Financial Instability Hypothesis; Asset-Backed Securities; Commodities Futures Markets

**JEL Classifications:** E02, E12, E32, E44, G01, G2

## INTRODUCTION<sup>1</sup>

At the beginning of 2009, the world faces the worst economic crisis since the 1930s. Even mainstream economists have begun to talk about the possibility of a depression. References to Keynesian theory and policy are now commonplace, with only truly committed free marketeers arguing against massive government spending to cushion the collapse and reregulation to prevent future crises. The final months of 2008 saw huge job losses in the U.S. and elsewhere, and few believe that recovery will begin soon even with President Obama's fiscal stimulus package. All sorts of explanations have been proffered for the causes of the crisis: lax regulation and oversight, rising inequality that encouraged households to borrow to support spending, greed and irrational exuberance, and excessive global liquidity—spurred by easy money policy in the U.S. and by U.S. current account deficits that flooded the world with too many dollars.

Hyman Minsky's work has enjoyed unprecedented interest, with many calling this the "Minsky Moment" or "Minsky Crisis" (Cassidy 2008, Chancellor 2007, McCulley 2007, Whalen 2007). In this paper I will not be able to address all rival explanations of the cause of the crisis. What I will do instead is to provide a sharper "Minskyan" analysis than the superficial explanations that many others have offered. We should not view this as a "moment" that can be traced to recent developments. Rather, as Minsky had been arguing for nearly fifty years, what we have seen is a slow transformation of the financial system toward fragility. In the final years before his death in 1996, he had developed a "stages" approach to this evolution, identifying the current phase as "money manager capitalism." This paper will focus on the role that money managers played in creating this crisis. It is essential to recognize that we have had a long series of crises, and the trend has been toward more severe and more frequent crises: REITs in the early 1970s; LDC debt in the early 1980s; commercial real estate, junk bonds, and the thrift crisis in the US (with banking crises in many other nations) in the 1980s; stock market crashes in 1987 and again in 2000 with the Dot-com bust; the Japanese meltdown from the early 1980s;

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<sup>1</sup> This paper is based on an update of "Financial Markets Meltdown: What Can We Learn from Minsky," and "The Commodities Market Bubble: Money Manager Capitalism and the Financialization of Commodities," both published by The Levy Economics Institute and available at [www.levy.org](http://www.levy.org).

LTCM, the Russian default, and Asian debt crises in the late 1990s; and so on. Until the current crisis, each of these was resolved (some more painfully than others; one could argue that Japan never successfully resolved its crisis) with some combination of central bank or international institution (IMF, World Bank) intervention plus a fiscal rescue (often taking the form of U.S. Treasury spending of last resort to prop up the U.S. economy to maintain imports).

Minsky always insisted that there are two essential propositions of his “financial instability hypothesis” (See Papadimitriou and Wray 1998 for a summary of Minsky’s approach.). The first is that there are two financing “regimes”—one that is consistent with stability and the other in which the economy is subject to instability. The second proposition is that “stability is destabilizing,” so that endogenous processes will tend to move a stable system toward fragility. While Minsky is best-known for his analysis of the crisis, he argued that the strongest force in a modern capitalist economy operates in the other direction—toward an unconstrained speculative boom. The current crisis is a natural outcome of these processes—an unsustainable explosion of real estate prices, mortgage debt and leveraged positions in collateralized securities in conjunction with a similarly unsustainable explosion of commodities prices. Unlike some popular explanations of the causes of the meltdown, Minsky would not blame “irrational exuberance” or “manias” or “bubbles.” Those who had been caught up in the boom behaved “rationally” at least according to the “model of the model” they had developed to guide their behavior.

Following Hyman Minsky, I blame money manager capitalism—the economic system characterized by highly leveraged funds seeking maximum returns in an environment that systematically under-prices risk. With little regulation or supervision of financial institutions, money managers have concocted increasingly esoteric instruments that quickly spread around the world. Contrary to economic theory, markets generate perverse incentives for excess risk, punishing the timid. Those playing along are rewarded with high returns because highly leveraged funding drives up prices for the underlying assets—whether they are dot-com stocks, Las Vegas homes, or corn futures. Since each subsequent bust only wipes out a portion of the managed money, a new boom inevitably rises. However, this current crisis is probably so severe that it will not only

destroy a considerable part of the managed money, but it has already thoroughly discredited the money managers. Right now, it seems unlikely that “business as usual” will return. Perhaps this will prove to be the end of this stage of capitalism—the money manager phase. Of course, it is too early to even speculate on the form capitalism will take. I will only briefly outline some policy implications.

## **THE DEMISE OF BANKING AND THE RISE OF MONEY MANAGERS**

In the developed world there has been a long-term transition away from relatively tightly regulated banking toward “market-based” financial institutions. This transformation is most clear in the U.S., which had separated commercial banking (loans and deposits) from investment banking (broader array of financial instruments including equities and securities). Two decades ago there was a lot of discussion of the benefits of the “universal banking” model adopted abroad (Germany, Japan), and there was some movement in the U.S. in that direction. However, of far greater importance was the development of the “originate to distribute” model best represented by securitization, and use of “off-balance sheet” operations. Ironically, the push to increase safety and soundness through creation of international standards as adopted in the Basle agreements actually encouraged these developments—which as we now know greatly increased systemic risk. Here I will focus on developments in the U.S., although to a lesser degree there was a similar transformation in other developed nations. This is not at all surprising given the importance of the U.S. in the world economy and given that similar ideas were guiding policy makers and financial institution management around the world.

Modern securitization of home mortgages began in the early 1980s. While securitization is usually presented as a technological innovation that came out of private sector initiative to spread risk, in reality—as Minsky (1987) argued—it was a response to policy initiated by Chairman Volcker in 1979 (See also Kuttner 2007). This was the infamous experiment in monetarism, during which the Fed purportedly targeted money growth to fight inflation—pushing the fed funds rate above 20% (Wray 1994). In the new policy regime, no financial institution could afford to be stuck with long-term fixed rate mortgages. Hence, regulators and supervisors “freed” regulated banks and thrifts to

pursue higher return, and riskier, activities. There is no need to recount the sordid details of that fiasco (Wray 1994; Black 2005). However, the long-term consequence was the recognition that the mortgage “market” had to change—with banks and thrifts shifting assets off their books through securitization.

Minsky (1987) was one of the few commentators who understood the true potential of securitization. In principle, all mortgages (indeed, most bank assets) could be packaged into a variety of risk classes, with differential pricing to cover risk. Investors could choose the desired risk-return trade-off. Financial institutions would earn fee income for loan origination, for assessing risk, and for servicing the mortgages. Wall Street would place the collateralized debt obligations (CDOs), slicing and dicing to suit the needs of investors. Securitization contributed to an apparent democratization of access to credit as homeownership rates rose to record levels over the coming decades—and it initially appeared that banks and thrifts were insulated from interest rate risk.

Minsky (1987) argued that securitization reflected two additional developments. First, it was part and parcel of the globalization of finance, as securitization creates assets freed from national boundaries. As Minsky was fond of pointing out, the unparalleled post-WWII depression-free expansion in the developed world (and even in much of the developing world) has created a global pool of managed money seeking returns. Packaged securities were appealing for global investors trying to achieve the desired proportion of dollar-denominated assets. It would be no surprise to Minsky to find that the value of securitized American mortgages eventually exceeded the value of the global market for federal government debt.

The second development is the relative decline of the importance of banks in favor of “markets.” (The bank share of all financial assets fell from around 50% in the 1950s to around 25% in the 1990s.) This was encouraged by the experiment in Monetarism (that decimated the regulated portion of the sector in favor of the relatively unregulated “markets”), but it was also by continual erosion of the portion of the financial sphere that had been allocated by rules, regulations, and tradition to banks. The growth of competition on both sides of banking business—checkable deposits at non-bank financial institutions that could pay market interest rates; and rise of the commercial paper market that allowed firms to bypass commercial banks—squeezed the profitability

of banking. Minsky (1987) observed that banks appear to require a spread of about 450 basis points between interest rates earned on assets less that paid on liabilities. This covers the normal rate of return on capital, plus the required reserve “tax” imposed on banks (reserves are non-earning assets), and the costs of servicing customers. By contrast, financial markets can operate with much lower spreads precisely because they are exempt from required reserve ratios, regulated capital requirements, and much of the costs of relationship banking.

To restore profitability in the aftermath of Monetarism, banks and thrifts would earn fee income for loan origination, but by moving the mortgages off their books they could escape reserve and capital requirements. Investment banks purchased and pooled mortgages, then sold securities to investors. As Minsky (1987) argued, investment banks would pay ratings agencies to bless the securities, and hire economists to develop models to demonstrate that interest earnings would more than compensate for risks. Risk raters and economic modelers essentially served as credit enhancers, certifying that prospective defaults on subprimes would be little different from those on conventional mortgages—so that the subprime-backed securities could receive the investment-grade rating required by insurance and pension funds. Later, other “credit enhancements” were added to the securities, such as large penalties for early payment and buy-back guarantees in the event of capital losses due to unexpectedly high delinquencies and foreclosures—the latter became important when the crisis hit because the risks came right back to banks due to the guarantees. One other credit enhancement played an essential role—insurance on the securities, sold by MBIA (the world’s largest insurer), AMBAC, FGIC Corp., and CFGI. Without affordable insurance, and without high credit ratings for the insurers, themselves, the market for pools of mortgages would have been limited (Richard and Gutscher 2007). As soon as the crisis hit, the insurers were downgraded, which automatically led to downgrading of the securities—a nice vicious cycle.

The problem is that the incentive structure was sure to create problems. In the aftermath of the 2000 equity market crash, investors looked for alternative sources of profits. Low interest rate policy by Greenspan’s Fed meant that traditional money markets could not offer adequate returns. Investors lusted for higher risks, and mortgage originators offered subprimes and other “affordability products” with ever lower



underwriting standards. Brokers were richly rewarded for inducing borrowers to accept unfavorable terms, which increased the value of the securities. New and risky types of mortgages—hybrid ARMs (adjustable rate mortgages) that offered low teaser rates for two or three years, with very high reset rates—were pushed.<sup>2</sup> Chairman Greenspan approved the practice, urging homebuyers to take on adjustable rate debt.

As originators would not hold the mortgages, there was little reason to worry about ability to pay. Indeed, since banks, thrifts, and mortgage brokers relied on fee income, rather than interest, their incentive was to increase through-put, originating as many mortgages as possible. By design, the Orwellian-named “affordability products” were not affordable—at the time of reset, the homeowner would need to refinance, generating early payment penalties and more fees for originators, securitizers, holders of securities, and all others in the home finance food chain. The fate of homeowners was sealed by bankruptcy “reform” that makes it virtually impossible to get out of mortgage debt—another nice “credit enhancement” provided by Congress.

The combination of incentives to increase throughput, plus credit enhancements led to virtually no reluctance to purchase securities with the riskiest underlying debts. While relationship banking had based loans on the relevant characteristics of the borrower (such as income, credit history, assets), the new arrangements appeared to offer a nearly infinite supply of impersonal mortgage credit with no need to evaluate borrower ability to repay. Instead, “quant models” based on historical data regarding default rates of purportedly similar borrowers would replace costly relationship banking, enhancing efficiencies and narrowing interest rate spreads (Kregel 2007). Risky mortgages were pooled and sliced into a variety of tranches to meet the risk-return profile desired by investors. Senior tranches would be paid first; more junior, non-investment grade, tranches could be sold to hedge funds that would receive payments only if the senior securities were fully serviced. (Incredibly, junior tranches could be pooled a second time,

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<sup>2</sup> According to an analysis of \$2.5 trillion worth of subprime loans performed for the *Wall Street Journal*, most of those who obtained subprime loans would have qualified for better terms. For example, in 2006 61% of subprime borrowers had credit scores high enough to obtain conventional loans. Because brokers were rewarded for persuading borrowers to take on higher interest rates than those they qualified for, there was strong pressure to avoid conventional loans with lower rates (Brooks and Simon 2007). This may also explain why brokers accepted little documentation from borrowers.

and even third time, and sliced into senior and junior tranches—transforming the riskiest junk into investment-grade senior securities.)

In sum, by 2000, the nature of the real estate finance market had changed in a fundamental manner so that it would evolve toward fragility. The growth of securitization led to a tremendous increase of leverage ratios—typically at least 15-to-1 and often much greater—with the owners (for example, hedge funds) putting up very little of their own money while issuing potentially volatile commercial paper or other liabilities to fund positions in the securities.<sup>3</sup> A virtuous cycle was created over the course of the 1990s that led to the boom and subsequent bust. The economic stability encouraged financial innovations that “stretched liquidity” in Minsky’s terminology; this plus competition urged financial institutions to increase leverage ratios, increasing credit availability. This is because for given expected losses, higher leverage raises return on equity. With easy credit, asset prices could be bid up, and rising prices encouraged yet more innovation and competition to further increase leverage. Innovations expanded loan supply, fueled home buying and drove up the value of real estate, which increased the size of loans required and justified rising leverage ratios (loan-to-value and loan-to-income) since homes could always be refinanced or sold later at higher prices if problems developed. The virtuous cycle ensured that the financial system would move through the structures that Minsky labeled hedge, speculative, and finally Ponzi—which requires asset price appreciation to validate it. Indeed, the virtuous cycle made Ponzi position-taking nearly inevitable.

The new “originate and distribute” model is much less subject to control by policy, and is also less amenable to assistance when things go bad. Instead of a closely regulated industry, home finance became a mostly unsupervised, highly leveraged, speculative activity. The Ponzi phase would end only if rates rose or prices stopped rising. Of course, both events were inevitable, indeed, were dynamically linked because Fed rate hikes would slow speculation, attenuating rising property values, and increasing risk spreads. When losses on subprimes began to exceed expectations based on historical

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<sup>3</sup> As Chancellor (2007) reports, modern risk management techniques use historical volatility as a proxy for risk. As volatility falls, risk is presumed to fall, which induces managers to increase leverage ratios. The period called “the great moderation” by Bernanke (2004) suggested that volatility would be permanently lower, hence, higher leverage ratios were deemed prudent. Chancellor reports that a hedge fund with only \$10 million of own funds could leverage that up to \$850 million of collateralized mortgage obligations—a leverage ratio of 85 to 1.

experience, prices of securities began to fall. Problems spread to other markets, including money market mutual funds and commercial paper markets, and banks became reluctant to lend even for short periods. With big leverage ratios, money managers faced huge losses greatly exceeding their capital, and began to de-leverage by selling, putting more downward pressure on prices. As the subprime market unraveled, fears spread to other asset-backed securities, including commercial real estate loans, and to other bond markets such as that for municipal bonds. Markets recognized that there were systemic problems with the credit ratings assigned by the credit ratings agencies. Further, they realized that if mortgage-backed securities, other asset-backed securities, and muni bonds are riskier than previously believed, then the insurers will have greater than expected losses. Ratings agencies downgraded the credit ratings of the insurers. As the financial position of insurers was questioned, the insurance that guaranteed the assets became worthless—so the ratings on bonds and securities were downgraded. In many cases, investment banks had a piece of this action, holding the worst of the securities, and they had promised to take back mortgages or had positions in the insurers—in retrospect, a huge mistake.

As of January 2009, U.S. financial institutions had written off \$1 trillion of bad assets. The Treasury had injected nearly \$400 billion of “bail-out” funds either through asset purchases, by taking non-voting equity shares, and by subsidizing mergers. The Fed’s balance sheet had expanded to nearly \$2 trillion as it lent reserves to U.S. banks and to foreign central banks. Even the most conventional projections expect at least another \$1 trillion of bank write-downs. Most observers believe many more banks will fail, and that Treasury costs of the bail-outs to come could be in the trillions of dollars. Note that the total securitized universe was only \$10 trillion, of which subprimes were \$2.5 trillion. It is clear that the losses incurred and expected to be incurred are not simply a matter of some bad mortgage loans made to low income borrowers to buy suburban mansions they could not afford. Rather, this is a crisis of the whole money manager system. And because so much of it is unregulated, unreported, and off-balance sheet, there is no way to even guess the ultimate scale of losses.

## **COMMODITIES BOOM AND BUST**

Over the course of the 2000s, we also saw a commodities market boom. I begin with an analysis of three explanations for the explosion of commodities prices. While often presented as rivals, I argue that simply because one explanation is valid that does not make the others incorrect. Indeed, there are synergies enabling the several forces driving prices higher to reinforce one another. Supply and demand is the explanation provided by most economists. Supplies are naturally constrained while demand is climbing—pushing prices higher. The second story involves market manipulation by commodities producers and traders. Finally, there is a growing belief that speculation in commodities futures markets is the real culprit. I argue that all three explanations are plausible and the identified mechanisms are mutually reinforcing. However, the rise of investments in commodities indexes (called “index speculation”) is the most important cause. Further, commodities merely represent the latest asset class identified by money manager capitalism as ripe for financialization. If money manager capitalism is at the root of the problem, then it is the system that must be changed.

By fall 2008 commodities prices reversed course. To a large extent this seems to be due to the decision made by index speculators to pull out of futures markets (fearing that Congress will tighten regulations—and providing support to the view that the price boom was indeed fueled by their speculation). While this brings welcome relief it does not mean we are out of the woods. Falling commodity prices will generate problems: production decisions as well as portfolio allocations have been made on the expectation of rising prices, so just as falling real estate prices are devastating for households, for the real estate sector generally, and for financial markets, there will be significant fall-out from falling commodities prices. Thus, a policy response is still necessary.

### **Supply and Demand**

Most of the press has focused on rising oil, corn, and gold prices. But in fact, the boom has taken place across a wide range of commodities, and indeed is unprecedented in scope and size. According to Frank Veneroso (2008a), over the course of the twentieth century, there were previously just 13 instances in which the price of a single commodity

rose by 500% or more. For example, the price of sugar rose 641% in 1920, and in the same year the price of cotton rose 538%. During the Hunt brothers episode in 1980, silver prices were driven up by 3813%. If we look at the current boom, there were eight commodities whose price rise equaled 500% or more: heating oil (1313%), nickel (1273%), crude oil (1205%), lead (870%), copper (606%), zinc (616%), tin (510%), and wheat (500%). Many other agricultural, energy, and metals commodities also had large price hikes, albeit below that threshold (for the 25 commodities typically included in the commodities indexes, the average rise since 2003 has been 203%) (Masters and White 2008). There is no evidence of any other commodities boom to match the current one in terms of scope.

We “know” from our principles of economics textbook that the cause must lie somewhere between the “scissors” of supply and excess demand that drives prices higher. While it is true that there have been supply problems associated with some of these commodities, none was significant enough to explain such price hikes. Thus, most of those favoring the supply and demand story look to the demand side, in particular, to the rapid development of China and India. While appealing, the story is flawed. World growth has not been unusually high—rapid expansion in parts of Asia is offset by sluggish economies in Africa and Europe. Nor has growth of oil demand been rapid enough to explain price hikes. While it is true that China’s demand was growing very rapidly early in this decade, the growth rate fell off as oil prices rose. U.S. consumption stabilized by mid-decade, long before oil prices peaked. Finally, although demand has fallen off as economies slipped into recession, actual consumption of most commodities has fallen only slightly—not enough to explain the rapid price deflation observed.

Further, if markets were perfectly competitive, i.e., they contain so many buyers and sellers that none can influence the price, then the story provided by economists makes some sense. Trouble is, commodities markets—especially oil—are far from perfectly competitive. Many are produced in conditions of oligopoly (a few producers—OPEC and Russia in the case of oil) and/or are sold to oligopsonists (a few buyers—ADM and Cargill in the case of grains) who intermediate between many producers and final consumers. In addition, many commodities are targeted by government policy. As crude oil prices rose, Congress decided to subsidize on a massive scale biofuels

production—boosting corn and soy prices even as biofuels production increased use of oil (given U.S. agricultural practices, production of the crops is energy-intensive). Attributing these price pressures to “supply and demand” is misleading.

### **Manipulation of Prices**

In recent years there have been several well-publicized cases of manipulation of commodities prices. For example, in winter 2004 British Petroleum monopolized 90% of all U.S. TET propane supplies, withholding enough to drive prices up. In 2007 it reached a court settlement, agreeing to pay \$303 million in penalties and restitution (Stupak 2007). Amaranth manipulated natural gas spot prices by driving down futures prices in the last 30 minutes of trading for the March, April, and May 2006 contracts, making profits shorting positions in the ICE (International Commodities Exchange) market before collapsing (ibid). Other well-known cases include the Hunt brothers manipulation of silver prices, the Hamanaka affair in copper, the Marc Rich and Manny Weiss manipulation of aluminum, and the Tiger affair in palladium (Veneroso 2008a). In any case, there is little doubt that manipulation has played *some* role.

After crude oil prices exploded, the CFTC put together a Nationwide Crude Oil Investigation that culminated in charges levied against Optiver for price manipulation back in March 2007, finding its traders had successfully moved prices by small amounts to their benefit. Since 2002 the CFTC has filed 42 enforcement actions charging 72 defendants with manipulation; in addition, the Department of Justice has filed more than 47 criminal complaints (Veneroso 2008b; Lukken 2008).

However, so long as the term “manipulation” is limited to the actions of individual traders, it cannot play a large role in the current commodities boom since the most important markets—oil, soy, corn, wheat—are too big to be influenced for anything but the shortest period. As we will discuss in the next section, it is possible that commodities prices have been pushed by massive inflows of managed money *legally* following a “buy and hold” strategy that is self-reinforcing precisely because it will be successful so long as the flows are large enough.

## **Index Speculation in Commodities Futures Markets**

After equity prices collapsed in 2000, a number of researchers demonstrated that commodities prices are uncorrelated with returns from fixed income instruments (for example, bonds) and equities (stocks). Thus, holding commodities reduces volatility of portfolios. Further, it was shown that commodities provide an inflation hedge. However, holding commodities is expensive—there are substantial storage costs. Hence, money managers looked to the futures market—paper claims to commodities. Because a futures contract would expire on the contracted date, the holder of the paper would then be in a position to receive the commodities. Of course, money managers do not want to *ever* receive the commodities scheduled to be delivered, so the contracts are “rolled” on the scheduled date—into another futures contract with a delivery date farther into the future.

There are three main types of participants in these markets: hedgers, traditional speculators, and index speculators. Index speculators are typically hedge funds, pension funds, university endowments, life insurance companies, sovereign wealth funds, and banks. Most importantly, they only take long positions—it is a buy and hold strategy, allocating a specific portion of the portfolio to commodities. To simplify allocation, managed money replicates one of the commodity futures indexes—hence the term “index speculator.” The biggest are SP-GSCI and DJ-AIG. If index prices rise, index speculators earn returns. Indeed, because commodities futures contracts do not pay any yield, the only possible source of return is an increase of the price of the futures contracts. For this reason, purchase of a commodities futures index is fundamentally a speculative activity. Prior to the 1990s, the Prudent Investor rule prohibited pensions from buying such contracts (Masters and White 2008). It was the collapse of the equities market in 2000 and the discovery that the performance of commodities was not correlated with equities that led to use of futures contracts to reduce portfolio risk. This is what allowed Goldman, Sachs & Co. as well as other indexers to successfully push commodities futures as a new asset class for prudent investors.

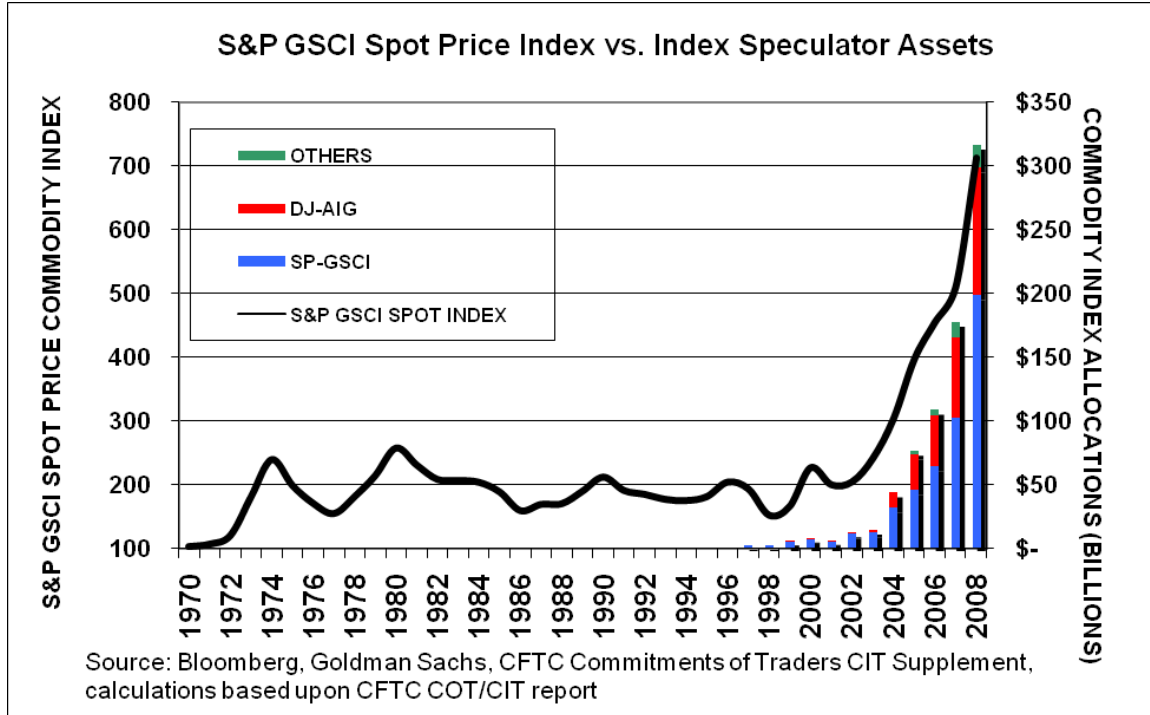
Energy commodities dominate these indexes, with petroleum-related products accounting for 58%. The biggest agricultural commodities weightings are given to corn, soybeans, and wheat; the biggest shares for metals are in aluminum, copper, and gold. Typically, managed money allocates 4 or 5% of a portfolio to commodities. While this

might appear small, the size of managed money funds is gargantuan relative to the size of commodities. For comparison purposes, Masters (2008a, 2008b) pointed out that the total increase of Chinese consumption of oil over the past five years totaled 920 million barrels, while index speculators increased their holdings of oil contracts by 848 million barrels during the same period. As another example, index speculators hold contracts for over 1.3 million tons of copper, out of a total annual production of less than 18 million tons (Masters and White 2008, p. 18). Indeed, index speculators hold a sufficient quantity of wheat futures to supply America's demand for wheat for two years, and contracts on enough corn to supply the US ethanol industry for a year (ibid). Masters and White (2008, p. 20) estimate that the total volume of futures contracts purchased in the past five and a half years has increased by about 5.3 million, of which index speculators bought 2.7 million—or just over half. By contrast, physical hedgers purchased just a fifth. In 2002 there was a total of about \$50 billion of managed money in the indexes, growing above \$100 billion in 2006 and above \$300 billion at the peak (Masters 2008a). It is hard to avoid the conclusion that the index speculator tail is wagging the physical hedger dog.

The case that these inflows of funds have driven commodity prices ever-higher seems easy to make. Figure 1 plots the spot price of the S&P GSCI index—which reflects the current market price of 25 basic commodities—with the flow of managed money into futures markets. This is because the concern is whether activity in futures markets is impacting today's commodities prices.



Figure 1: S&P GSCI Spot Price Index vs Index Speculator Assets



The correlation is remarkable: higher money inflows lead to higher prices. However, as any economist will warn, correlation never proves causation. And, indeed, the causation must go both ways: rising prices encourage more inflows, and more inflows generate higher prices. But even with that caveat, the evidence appears at least superficially quite strong that it is a speculatively-driven run-up of commodities prices.

The economist urges caution. Why would purchases of futures contracts drive up today’s spot prices? (Orthodoxy presumes the reverse: fundamentals determine spot prices, and expectations of future spot prices determine futures prices.) The reason is “price discovery.” Commodities production is often local, while final consumption is more geographically dispersed. For example, wheat is farmed in several distinct rural regions in the U.S., with ultimate consumers more than a thousand miles away. Farmers sell to local grain elevator owners who act as intermediaries. Neither the farmer nor the local grain elevator owner has much information about the price the grain might fetch when sold to food processors. However, unlike the local market for the physical commodity, the commodity futures market is national and even international. Futures

prices are readily available and reflect real time “supply and demand.” Thus, local commodities markets have come to rely on futures markets as the primary source of price information. There is then an adjustment made to reflect local conditions—much as Kelly’s Blue Book adjusts used car values to reflect local market conditions by zipcode.

The use of commodities futures markets has eliminated the sometimes large differences between prices in various regional spot markets that existed prior to the 1980s (Masters 2008b). Now, as the CFTC describes it, “In many physical commodities (especially agricultural commodities), cash market participants base spot and forward prices on the futures prices that are ‘discovered’ in the competitive, open auction market of a futures exchange” (quoted in Masters 2008b). Describing oil pricing, Platts (the biggest pricing service for the energy industry) writes “In the spot market, therefore, negotiations for physical oils will typically use NYMEX as a reference point, with bids/offers and deals expressed as a differential to the futures price” (Platts 2007). Ironically, even the S&P-GSCI and the DJ-AIG “spot” price commodity indexes are actually “based predominantly upon the prices of the nearest-to-expiration futures contracts for their respective set of commodities” (Masters and White 2008, p. 8). Finally, Masters emphasizes the point: *“In the present system, price changes for key agricultural and energy commodities originate in the futures markets and then are transmitted directly to the spot markets”* (Masters 2008b, emphasis in original).

In summary, index speculators have driven prices for commodities to historic levels. Commodities markets deviate substantially from the textbook models, with prices that are administered rather than set by fundamental forces of supply and demand. In many cases, spot prices are determined directly by futures prices. Futures prices, in turn, are influenced by a variety of forces including attempts by buyers and sellers to hedge price risk, by traditional speculators to go short or long as they make guesses about price movements, and by index speculators diversifying portfolios into a new asset class—commodities. It is no coincidence that futures prices soared over the past four years as managed money flowed into markets—coming from pension funds, sovereign wealth funds, hedge funds, and banks (mostly European). This reinforced other factors that had been driving up prices, including rapid growth in China and India as well as some supply constraints and inventory manipulation. Government policies, including export

restrictions and U.S. biofuels incentives, also played a role. These policy choices were themselves prodded by rising commodities prices, even as they contributed to rising prices. A perfect storm was created in which almost every participant's interest lay in continued price gains.

Once managed money achieved the desired allocation of commodities, the large volumes of inflows subsided. Further, when Congress began to investigate the role of managed money in commodities markets, pension funds retreated fearing bad publicity and possible regulation. Suddenly prices stopped rising. Traditional speculators revised their expectations and some began to short commodities. A strong price reversal took place between mid-July, when the price of oil brushed up against \$150 a barrel, and mid-August, when it had dropped below \$115. (By January 2009 the price had plummeted toward \$40; it is estimated that one-third of all the managed money had fled the market by fall 2008.) Producers who had made business plans based on rising prices find that they cannot succeed in an environment of falling commodities prices. We have seen the result of falling agricultural commodities prices several times during the past century; of course the most significant was during the period described in *The Grapes of Wrath*. The consequences for rural America and its banks can be severe. Farmers in rural areas around the globe are already feeling the pinch. While starvation hit urban areas in the price boom, now it is the rural poor that are starving.

## **POLICY RESPONSES**

Let us first deal with the commodities market crisis because that appears simplest to resolve. Much of the managed money engaged in index speculation benefits from explicit or implicit government guarantees (such as the insurance that stands behind pensions) and from tax benefits (tax-advantaged savings). If Congress should find that public interest is threatened by index speculation, then it should prohibit commodity index replication strategies. Masters and White (2008) have argued for revision of the Prudent Investor rule to explicitly prohibit pension investment in commodities. Alternatively, they note that if all profits from speculation in commodities were subject to tax, it would severely reduce the attractiveness of these markets for tax-advantaged savings. While it is

beyond the scope of this paper, it is also necessary to close the various loopholes that allow commodities speculation to escape regulation and oversight.

Assuming the commodities market boom is coming to an ugly end, Congress also needs to consider what can be done to cushion the collapse. Those holding futures contracts that cannot be rolled without catastrophic losses include pension funds, banks, and hedge funds. Further, to the extent that futures prices affect spot prices, producers of agricultural commodities are now finding that market prices won't cover costs incurred. Already tight global food supplies will be restricted further if farmers react the way they usually do to falling prices: by destroying crops and slaughtering animals. Alternative energy suppliers will be hurt by falling crude oil prices. To help relieve distress, Congress needs to ramp-up global food aid this year, purchasing agricultural output to help U.S. farmers facing falling prices, to be distributed to the world's hungry. American producers—especially of alternative energy—also need to be protected from falling commodities prices. More subsidies for wind, solar, and geothermal energy will be needed.

More generally, the commodities market bubble (and coming crash) is the third such episode in the past decade that resulted from unfettered, lemming-like herding of money over the cliff. To be sure, there have been many earlier examples—muni bonds in the 1960s, commercial paper in the late 1960s, REITs in the early 1970s, commercial real estate and LBOs in the 1980s, and so on. The problem is that managed money has grown tremendously, and leverage ratios have risen as taste for risk grew even as ability to perceive risk became ever scarcer. (Minsky used to attribute this to fading memories of the Great Depression; many of today's money managers cannot even remember the 1980s—much less the 1930s.) As a result, we have—we might say—command over too much money chasing too few good asset classes with what are perceived to be acceptable returns.

The U.S. (and global) financial sector continues to reel from the crisis that began with subprime mortgages; falling commodities prices will only make that very much worse. Pension funds will be threatened, depleting the Pension Benefit Guarantee Corporation. The FDIC's "insurance" fund is already insolvent on any honest accounting basis. A lot of bail-out funds have already been spent in the U.S. and abroad, and more

will be spent. Still, if a lot of wealth is not wiped out, there will be tremendous pressure on money managers to find yet another asset class ripe with possibilities for lofty returns. Without greater oversight, the “cure” could be worse than the disease. So bail-outs will be needed, but strings must be attached in the form of regulatory constraint to prevent another boom/bust cycle.

Time and economic growth can go a long way in restoring financial health—if incomes can grow sufficiently, it becomes easier to service debt. The private sector cannot be the main source of demand stimulus as it has been running up debt, spending more than its income for a decade. While the government budget deficit is already growing as the economy slows, this results from deterioration of employment and income (which lowers taxes and increases transfers)—thus it will not proactively create growth although it will help to constrain the depths of recession. What is needed is a massive fiscal stimulus—probably twice the \$800 billion that the Obama team will propose—and then a permanently larger fiscal presence to allow growth without relying on private sector debt.

We will also have to have mortgage relief. President Roosevelt created an RFC-like agency, the Home Owners’ Loan Corporation (HOLC), to take on the tasks of saving small home owners. This successfully refinanced 20% of the nation’s mortgages, issuing bonds to raise the funds. While a fifth of those loans eventually were foreclosed, the HOLC actually managed to earn a small surplus on its activities, which was paid to the Treasury when it was liquidated in 1951. Clearly, there are lessons to be learned from that experience: refinance is preferable to foreclosure as it preserves homeownership and communities. Congress must promulgate regulations on mortgage originators to establish new licensing requirements, put restrictions on saddling borrowers with riskier loans, and provide liability for financial institutions that sell mortgages. In addition, Congress should set new standards to be met by originators regarding ability of borrowers to make payments. New regulations of appraisers, risk rating agencies, and accounting firms will be required.

Policy should avoid promotion of financial institution consolidation—a natural result of financial crises that can be boosted by policy-arranged bailouts. Minsky always preferred policy that would promote small-to-medium sized financial institutions.

Unfortunately, policy-makers who are biased toward “free markets” instinctively prefer to use public money to subsidize private institution takeovers of failing financial firms. The Roosevelt alternative should be adopted: temporary “nationalization” of failing institutions with a view to eventually return them to the private sector at a small profit to the U.S. Treasury. This is what Minsky advocated during the thrift crisis of the 1980s, but President Bush, senior, chose industry consolidation and public assumption of bad assets that resulted in Treasury losses—bad policy repeated by Bush, junior’s Treasury Secretary Paulson. Policy should instead foster competition, with a bias against consolidation and with greater regulation of the banking, protected, sector.

Minsky argued that the Great Depression represented a failure of the small-government, Laissez-faire economic model, while the New Deal promoted a Big Government/Big Bank highly successful model for financial capitalism. The current crisis just as convincingly represents a failure of the Big Government/Neoconservative (or, outside the U.S., what is called neo-liberal) model that promotes deregulation, reduced supervision and oversight, privatization, and consolidation of market power. It replaced the New Deal reforms with self-supervision of markets, with greater reliance on “personal responsibility” as safety nets were shredded, and with monetary and fiscal policy that is biased against maintenance of full employment and adequate growth to generate rising living standards for most Americans. The model is in trouble—and not just with respect to the current global crisis, as the US faces record inequality and destruction of the middle class, a healthcare crisis, an incarceration disaster, and other problems beyond the scope of this analysis (See Wray 2005 and Wray 2000).

We must return to a more sensible model, with enhanced oversight of financial institutions and with a financial structure that promotes stability rather than speculation. We need policy that promotes rising wages for the bottom half so that borrowing is less necessary to achieve middle class living standards. We need policy that promotes employment, rather than transfer payments—or worse, incarceration—for those left behind. Monetary policy must be turned away from using rate hikes to pre-empt inflation and toward a proper role: stabilizing interest rates, direct credit controls to prevent runaway speculation, and supervision.

Minsky insisted “the creation of new economic institutions which constrain the impact of uncertainty is necessary,” arguing that the “aim of policy is to assure that the economic prerequisites for sustaining the civil and civilized standards of an open liberal society exist. If amplified uncertainty and extremes in income maldistribution and social inequalities attenuate the economic underpinnings of democracy, then the market behavior that creates these conditions has to be constrained” (Minsky 1996, pp 14, 15). It is time to take finance back from the clutches of Wall Street’s casino.

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