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THE SHADOW PYRAMID

Derivatives Made Easy

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Executive summary

The derivatives market is not the outcome of a natural development, as falsely suggested by mainstream economics in picturing it as a creature of the market's immune system fighting risk-concentration. Rather, it must be seen as a defensive measure on the part of the managers of the dollar, in order to perpetuate their power to issue irredeemable promises. They hope that by creating infinite demand for T-bonds they can prevent interest rates or, by implication, prices from running away. However, the managers are playing with fire. Interest rates may keep falling, dragging prices down with them. This spells deflation and depression not only in the United States but also in the world.

Exter's pyramid

John Exter, the six-foot tall „gnome" of the Federal Reserve Bank of New York and one-time custodian of earmarked gold locked up in the Liberty Street fortress in Manhattan, is best-known for his model of the money supply represented as an inverted pyramid. Exter belongs to the school teaching that the current experiment with irredeemable currency is more likely to lead to a deflationary than an inflationary catastrophe.

The inverted pyramid is delicately balanced on a tip of pure gold. Its upper layers consist of money of increasingly greater proliferation such as Federal Reserve notes, T-bills, bank deposits, as well as other bank liabilities. The layers are graded according to safety, going from the safest, gold at the bottom to the least safe, the layer of electronic dollars at the top.

While appearing placid, static, and monolithic, the pyramid comes alive every once in a while when a monetary or banking crisis erupts somewhere in the world. There is great commotion and agitation manifested by the scrambling of assets downwards to less prolific layers below, in the wake of owners trying to take a „flight to safety" — as it has been happening with increasing frequency in the twentieth century, especially during the fourth quarter, after the United States defaulted on its gold obligation to foreign governments in 1971. The pyramid is deflationary because, although it is increasing at a double-digit rate, it threatens to collapse to its low-lying layers in consequence of repeated monetary crises.

The Derivatives Revolution

Exter's pyramid casts a huge shadow which is increasing even faster than the pyramid itself, as you might expect the shadow of any pyramid to loom ever larger in the sunset. Make no mistake about it, the sun is setting on the irredeemable dollar. The shadow is none other than the derivatives market with its tip consisting of T-bond obligations of the U.S., followed by layers of interest-rate derivatives graded by remoteness from the tip.

In more details, calling the tip or the layer of T-bonds the first, the second layer consists of futures contracts to be settled by surrendering T-bonds below. The third consists of futures contracts to be settled by surrendering obligations belonging to the second layer. And so on, the nth layer consists of future contracts to be settled by surrendering obligations belonging to the $(n - 1)^{st}$ layer. It is readily seen that only T-bonds can ultimately liquidate all liabilities. Thus a pyramid of liabilities, which is allowed to grow beyond any limit as n gets arbitrarily large, is being built on a limited supply of T-bonds.

As Floyd Norris writes in *The New York Times* on October 26, 2007 (see the article entitled *Who's Going to Take the Financial Weight?*): "the transfer of risk was supposed to be the great advance brought to the world by financial engineers in developing exotic derivative products that enabled risks to be sliced and diced in all manner of ways. The risks have been transferred through a bewildering wilderness of futures: options, swaps, swaptions, specialized investment vehicles, collateralized debt obligations, variable interest conduits, and who knows how many other instruments".

Short squeeze and corner

But there is another side to the Derivatives Revolution. The market for interest-rate derivatives is not unlike an imaginary futures market in corn that allows unlimited short selling of the next crop regardless of its size. Of course, there are consequences: short squeeze and, ultimately, a corner — the classical example of the game of musical chairs. Every player is happy — until the music stops.

The origin and growth of the shadow pyramid is the great mystery of 21st-century finance. Its layers are subject to the same kind of scrambling during times of crisis as those of Exter's pyramid, only worse. Those who have a long position are trying to swap it for another in the lower layers, closer to the „real thing", the T-bond. The trouble is that the lower layers cannot satisfy potential demand simultaneously.

But why is the shadow pyramid growing at the break-neck speed of 40 percent per annum? At that rate it doubles every other year, presently representing liabilities in the order of ½ quadrillion or 500 trillion dollars, a sum that boggles the mind. In comparison, the annual GDP of the U.S. is a paltry $14 trillion while that of the world is hardly more than $60 trillion. What is the inordinate size and growth of the pyramid trying to tell us?

Fast breeder of derivatives

It has been suggested that fewer than ten people in the world understand the shadow pyramid and its dynamics. It is further suggested that the $½ quadrillion is merely a „notional" value. Don't be misled by the semantics. Every dollar of the ½ quadrillion is a real liability: the obligee cannot walk away from it any more than the issuer of a bond can walk away from his — except through default. The shadow pyramid is an ideal hiding place for bad debt. Gold doesn't exist in sufficient quantities to liquidate Exter's pyramid; neither do T-bonds to liquidate its shadow.

Why do managers of the regime of irredeemable currency allow the proliferation of liabilities greatly to exceed the means of settlement? How could such an insane construction come about and continue to prosper, nay, to accelerate, threatening the world with an avalanche of defaults? The question is a taboo by order of government, which pussyfooting economists are only too anxious to observe. Yet monetary science has the answer. Gold Standard University is proud to take the initiative in violating the taboo.

Futility of price control

The irredeemable dollar is not a stable monetary standard. Like all irredeemable currencies in history, the dollar is facing periodic runs that will ultimately wipe out its value. The purchasing power of the dollar is being destroyed through relentless price rises. As long as the rate of average price rises can be kept under control, people don't worry too much about the value of their money. They are lulled into believing that what goes up will come down. The problem, therefore, is whether the government can limit price rises to, say, 3 percent per annum.

Limiting price rises administratively through price control is a non-starter. Black markets would spring up and people would take black market prices as „real" rather than the managed prices at which supplies were either unavailable or of inferior quality. The government has to resort to a method more sophisticated than that. So it attempts to control prices by taking advantage of the so-called „linkage", (a.k.a. Gibson's Paradox), the well-observed albeit not so well-understood phenomenon that prices and interest rates are linked. Neither is free to move independently of the other, in particular one cannot, apart from leads and lags, run away while leaving the other behind.

The task facing the government is still daunting. In an inflationary scenario it is not enough to control short-term interest rates. But that is all the central bank is equipped to do: it is quite powerless to control long-term rates. So the government resorts to chicanery. It tries to enlist help from bond speculators to keep interest rates low by letting them bid up the price of T-bonds.

Making bond speculation risk-free

But how can the government persuade bond speculators, arguably the smartest lot in finance, to do its bidding? Well, that's just the thing. The government has to make bond speculation on the bull side of the market *risk free*. That is a tall order. How can it be pulled off?

Here is how. Speculators are encouraged to build up large inventories of T-bonds and „hedge" their long position in the futures market. That's the tricky part. Simple hedging won't do. The hedges must also be hedged.

In effect, the government legalizes unlimited short selling of T-bonds thereby creating unlimited demand for them. As any demand for bonds when fine-tuned is expected to result in a declining long-term rate of interest. To guard against the danger of falling interest rates spreading the fire to falling prices, the central bank stands ready to hose down the price-decline with liquidity. The arsonist is girding himself as a fire-fighter.

In the absence of unlimited short selling the value of dollar-denominated bonds would be devastated even before that of the dollar. But as the recent sub-prime crisis has demonstrated, this is not what is happening. There is hardly a ripple-effect in the bond market even after the value of the dollar is shattered. Bond hedges do work. Bond values can be insulated from the vicissitudes of the dollar by the layered structure of the shadow pyramid.

Mendacity of mainstream economics

The question arises why it is that prices of agricultural products can be effectively hedged by first-round control, without constructing an infinite tower of hedges of ever higher order. Here I must point to the mendacious nature of mainstream economics. It teaches that hedging bond prices is no different from hedging agricultural prices. The very same principles apply in bringing about the same desiderata: stable bond prices and stable interest rates. This teaching is a shameless lie spread by mainstream economists who are paid to know better. The proof is: the Babeldom of interest rate derivatives. No infinite tower of hedges is needed to stabilize the prices of agricultural goods; by contrast, simple hedging will not stabilize bond prices. The fact is that the risks involved in fluctuating gold and bond prices, or fluctuating interest and foreign exchange rates have been *artificially created.* They are man-made: the same as risks created in gaming casinos. How do we know? Well, under a gold standard all of the above risks were absent. At any rate, variation in the gold and bond prices or in interest and foreign exchange rates were so small that no organized speculation could spring up spontaneously for lack of sufficient volatility.

Speculation *versus* gambling

By contrast, risks involved in the variation of the prices of agricultural commodities are *nature-given*. Herein lies the fundamental difference between speculation and gambling. Speculators address risks that exist in nature. But risks that are man-made cannot be cushioned by speculation, just as risks artificially created in the gambling casino cannot. Instead, risks are *shifted* (possibly after having been sliced and diced to the point of making them unrecognizable). In destroying the gold standard the government has created the whole gamut of artificial risks, from variable foreign exchange rates to variable interest rates, neither of which can be successfully addressed by speculation as can the risk of fluctuating agricultural prices. In other words, while speculation addressing nature-given risks is *stabilizing*, speculation addressing man-made risks is *destabilizing*. Just as at the roulette table: an increase in the number of players will in no way limit the risk involved in betting. Just the opposite: gambling frenzy will climb and, with it, risk exposure will be rising, too.

The successful speculator correctly diagnoses budding supply shocks. If he anticipates a crop failure, then he buys while prices are still low. He sells when prices rise after the crop failure has occurred, thereby augmenting supply, tampering the price rise. The consumer benefits. Alternatively, if the speculator anticipates a bumper crop, then he sells short while prices are still high. He covers his short position when prices fall after the bumper crop has been brought in, thereby augmenting demand, tampering the decline of prices. The producer benefits. The speculator is a benefactor of society — but only in so far as the risk of price-fluctuation is nature-given.

Natural selection – central bank style

The case is very different when the risk is man-made. Take variable foreign exchange rates. Here central bankers pit their wit against that of the currency speculator. We may be confident that the wits of speculators are sharper. After all, they make it their business to outsmart the central banker. In the process they risk their capital. The central banker knows that his losses will be covered by the Treasury. The „natural selection" that shapes the skills of speculators, allowing only the smartest of the smart to survive while the rest, having lost their capital will fall by the wayside, fails to apply to central bankers. Instead, there is inbreeding and complacency. Central bankers are on salaries and risk no capital of their own. No natural selection is at work culling the herd of obtuse central bankers. The upshot is that central bank intervention in the futures and derivatives markets is more often a failure than a success. Nimble and wily speculators routinely win.

Pump-priming to make speculation self-fulfilling

Jaw-boning will not persuade speculators to keep buying T-bonds. They see through and will sell the bonds rather than buying them if they expect interest rates to rise. However, there is something the government can still do, vicious as though it might be. If the government could only demonstrate that interest rates will keep falling or, what is the same to say, bond prices will keep rising, then speculators will naturally converge on the bull side of the market and the prediction of rising bond values will be „self-fulfilling". Stable bond prices won't do. It is necessary for the government to grant risk-free profits to bond bulls. The backdrop of a falling interest rate regime is essential.

The problem therefore is reduced for the government to engineer an initial falling bias for the rate of interest. That is a problem of pump-priming. Once a falling trend has been established, speculators will finish the job. They will perpetuate the trend by making bullish bets on bonds self-fulfilling. Pump-priming is deviously accomplished through legalizing higher order hedges in the bond market. The demand for T-bonds is artificially boosted.

Just as a Ponzi scheme is fraudulent and dealt with by the Criminal Code accordingly, the infinite proliferation of bond hedges through authorizing ever higher order of hedging is no less fraudulent. There is no difference in substance between the two schemes, only difference in form. Payoff is being promised to an ever larger population which cannot possibly be honored. Both schemes come to a sorry end when the supply of fools is exhausted. The supply of fools, however large, is still finite and there is no doubt that the Babeldom of derivatives will ultimately collapse.

Sacrifice on the altar of Moloch

To recapitulate, the derivatives market has been created for the sole purpose of perpetuating the regime of the irredeemable dollar. It embodies demand for dollar-denominated bonds that can be augmented without limits. The government creates an *infinite* pyramid of liabilities that can only be liquidated by a *finite* supply of bonds.

The dollar-system would have disintegrated in the twentieth century already, but for the demand that has been artificially created for T-bonds. Through the derivative pyramid the demand for bonds is boosted in a seemingly endless merry-go-round. The public is unaware that the T-bonds are rotten to the core. They are, in the words of the late Dr. Franz Pick, „guaranteed certificates of confiscation".

Once upon a time T-bonds were the safest investment vehicles on earth. Guardians of widows and orphans wouldn't look at anything else when investing their wards' inheritance. Savings were sacrosanct. But that was another age: the golden age of the gold standard when interest rates and bond values were stable. Only after the U.S. government single-handedly demolished the international gold standard did interest rates start bouncing up-and-down like a yo-yo. To the eternal shame of academia, the chorus of mainstream economists started parroting the propaganda line that, after all, it *was* the nature of interest rates to fluctuate wildly, just as it is the nature of prices of agricultural commodities, in response to changes in supply and demand — an unmitigated lie. T-bonds (and the inheritance of widows and orphans) have thus become a plaything in the hands of gamblers. The welfare of innocent children was sacrificed on the altar of Moloch. In the fullness of time, academia and the regime of irredeemable currency will be judged in the light of the Biblical admonition against tormenting widows and orphans.

Playing with fire

The foregoing explains how bullish bond speculation has been made virtually risk-free by the government through the inverted pyramid of derivatives. The outcome was a falling trend in the yield of 30-year bonds, from 16 percent in 1981 to 4 percent 25 years later, in 2006. Every time the rate of interest is halved, bond prices approximately double. Every time the rate of interest is cut back to one-quarter, bond prices approximately quadruple, as it has between 1981 and 2006. It is quite a windfall, with interest income at the rate of 16 percent kicked in as a bonus. Capital gains like this are not to be ridiculed, especially if they are available risk-free.

It is an open question whether the falling trend of interest rates will continue on its own, or it will be necessary to repeat the prestidigitation of 1980, printing another slate of 30-year bonds with 16 percent coupons attached to them. Let me suggest that the existence of the shadow pyramid makes this unnecessary. The pump has been primed already. The key ingredient, demand for T-bonds, is already given.

To be sure, in encouraging bullish bond speculation the government is playing with fire. Falling interest rates could drag commodity prices down, regardless of injections of new liquidity. Deflation and depression loom large on the horizon. The recent desperate attempt of the Open Market Committee to cut interest rates even in the face of a collapsing dollar shows a rare instance of brinkmanship.

The U.S. Treasury and the Federal Reserve have sold the nation's birthright for a pottage of lentils. They are no longer in control. Their check-kiting scheme is up. They noisily yank the stick-shift up and down, right and left, all in vain: it is no longer connected to anything. The future depends on the collective judgment of bond speculators, especially those not subject to the jurisdiction of the United States, into whose hands the fate of the dollar has slipped. It is a matter of guesswork to say how they will decide.

"China shrugged"

This may not be the end of the dollar yet. We have the Chinese puzzle wrapped in mystery inside of an enigma to solve. I would certainly count the Chinese among not just the biggest, but the shrewdest and

most skillful bond speculators ever, backed up by their unprecedented kitty of well over one trillion dollars in T-bonds. I would even go so far as suggesting that a large part of this kitty has originated, not so much in trade surplus but, rather, in bond speculation. After all, the Chinese have been active players at the blackjack table where the chips are U.S. bonds, since the early 1980's. They have played their hand quite adroitly. It would be out of character if they all of a sudden turned into dummies.

How can you explain the fact, mentioned by Edmund L. Andrews in *The New York Times* on October 10, 2007, (see the article entitled *U.S. Affects a Strong Silence on Its Weak Currency*) that China's central bank has stepped up its already huge purchases of dollar denominated securities? According to recent data, China's foreign exchange reserves have been climbing at a pace of $40 billion a month, or twice as fast as last year. Don't buy the ridiculous argument that China is trying to protect its market share in the U.S. by giving away its goods for next to nothing. Continued Chinese purchases of U.S. securities look more like an opening gambit than a stupid mistake.

Like Atlas carrying the globe on his shoulder, the Chinese carry the globalized dollar on theirs. Let others dump the T-bonds in a rout. The inscrutable Chinese will enter the fray later, and clean up. „China Shrugged". China's central bank is a big-time bond speculator: the biggest ever in history. Without fanfare it is following a script that promises a huge pay-off on T-bonds — in view of a growing shortage as the shadow pyramid of derivatives matures and demand for T-bonds intensifies.

As long as the payoff remains greater than dollar-depreciation, the Chinese are doing fine.

Who is holding whom to ransom?

From now on the game of musical chairs is going to continue with the Chinese calling the shots. The dollar will be stabilized albeit at a level reflecting big losses, but not so big as to jeopardize the mountain of paper profits the Chinese have piled up during the past 25 years. Through their control of the shadow pyramid the Chinese hold the U.S. Treasury to ransom in spite of appearances, namely, that the U.S. Treasury is holding the Chinese to ransom. That's the good news. The bad news is that this means deflation in the United States and the Western World, confirming Exter's gloomy prognostications: falling real estate prices, falling banks, falling employment.

Don't blame the bond speculators. Don't blame the Chinese. Blame the managers of the global regime of irredeemable currencies for the disaster. First and foremost blame those in the U.S. government who trampled on the Constitution in issuing irredeemable promises to pay. Dollar bills and T-bonds are just that. Irredeemable promises are explicitly ruled out by the Constitution.

At first it appeared a smart thing to flood the world with them as foreigners were showing an insatiable appetite for irredeemable promises. But as it often happens, the smart thing turned into too much of a good thing. The chips started accumulating in one hand, the hand of a smarter guy who knew how to call the shots. We need not worry that the Chinese may never get full value for their exports. We have plenty to worry about mischief at home.

It is criminal how the managers of the dollar have ostracized gold. It is criminal how they have allowed the debt of the U.S. government to burgeon and private thrift to wither simultaneously. It is criminal how they have let American debt get concentrated in foreign hands, in particular, the hand of the enigmatic Chinese. It is criminal how they have permitted the unlimited proliferation of interest-rate derivatives, in order to protect their power to flood the world with worthless paper — disregarding the possibility that falling interest rates may trigger worldwide depression.

It is criminal how the managers of the dollar have let monetary leadership slip out of the hand of the United States.

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