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Resurgence of Risk - A Primer on the Develop(ed) Credit Crunch

Posted by Nate Hagens on October 10, 2008 - 10:10am
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Tags: bankruptcy, credit crisis, deflation, primer, stoneleigh [list all tags]

This is a post run just over a year ago, by emeritus TOD contributor Stoneleigh. It was instructive as much as it was prescient so I wanted to give its author a public hat tip. Both Stoneleigh and her writing partner Ilargi at The Automatic Earth have had a consistently, and unabashedly phenomenal call with respects to the financial and debt crisis. It is certainly not over, but we now begin to see the impacts that a financial crisis may have on future energy supplies - it's like losing the battle as well as the war. Still, the quickness of the deterioration in the economy may be a blessing in disguise - more resources left in ground for some better planned use.

Below the fold, a reprint of Stoneleigh's excellent primer on the credit crisis. Right about now is when it starts to impact the energy world.

We have been living in inflationary times, for as long as most of us can remember. The money supply keeps expanding and prices increase over time as a result. Central bankers have many tools at their disposal which they can use to tweak the economy--–they can raise or lower interest rates, can control reserve requirements for fractional reserve banking and can inject liquidity into the banking system, among other things – and we have become used to thinking that they can prevent the kind of 'economic accidents' that previous episodes of excess have led to in the past. Especially in recent years--–since the apparently successful containment of the dot com aftermath--we have acted as if risk were a thing of the past. Sliced, diced and spread around Wall Street and the rest of the global financial system, risk has seemed tamed, contained and controlled, until last week that is.

> For years, industry insiders and so-called experts have proclaimed the virtues of slicing, dicing, and repackaging risk. They waxed on about how borrowers and savers, and society as a whole, could only benefit from such machinations. They suggested any sort of exposure could be disbursed and dissipated to the point where it essentially disappeared. Some even claimed that the crises of the past would no longer exist.
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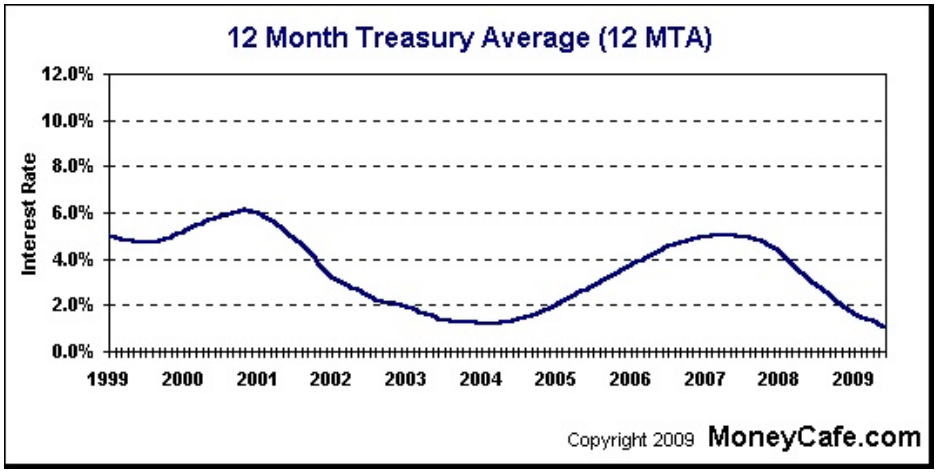
> Yet amid the hype and assurances, few supporters spoke of the dark side of wanton and widespread risk-shifting. They didn't seem — or want — to acknowledge that by combining complicated risks in unfamiliar and unnatural ways, the end result could be an uncontrollable monstrosity—one that eventually turned on its masters.
>
> Nor did they heed the notion that by scattering risk into every nook and cranny of the

> global financial system, the vast web of overlapping linkages virtually guaranteed that serious problems in one sector, market, or country would trigger far-reaching shockwaves.

All of a sudden, markets are reeling around the world, deals are unraveling, the mainstream press is talking about a credit crunch and the world's central bankers are injecting unprecedented amounts of liquidity to calm the markets. Risk has made a comeback, and in that environment the evident concern of the central bankers does not seem very reassuring.

The Dot Com Crash and Money Dropped From Helicopters

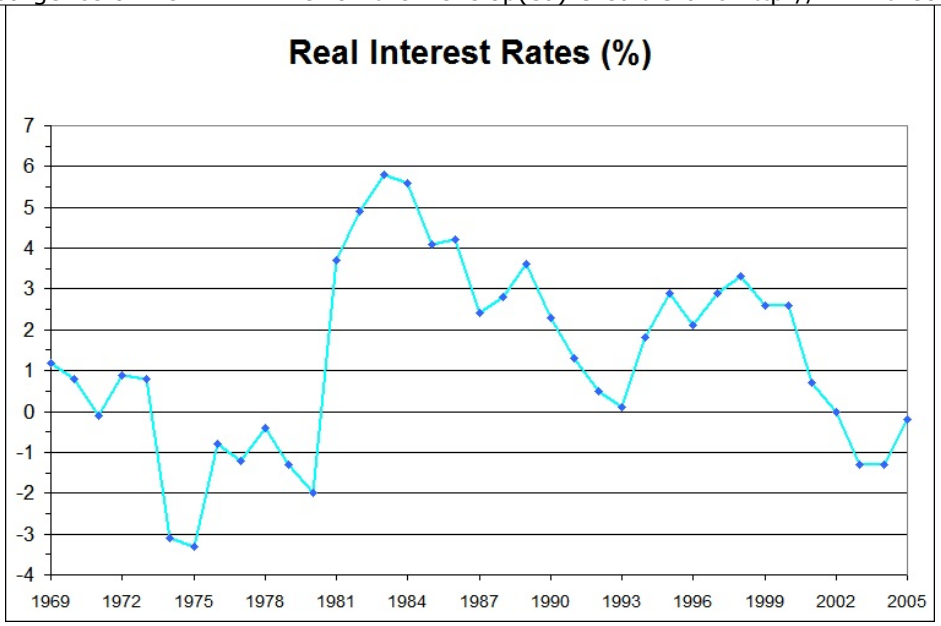
As the dot com boom morphed into the dot com bust (threatening to become a full-blown meltdown by the end of 2002) central bankers cut interest rates drastically and held them down for a long period of time.



In 2001, the US Federal Reserve Bank, the spigot of credit in America's debt-based economy, drastically slashed its interest rates 84 %, from 6.5 % in 2001 down to 1 % in 2002. The Fed did so because the collapse of the dot.com bubble in 2000 had so damaged US financial markets (the NASDAQ fell by 80 %) the Fed feared a depression could result.

As Ben Bernanke was preparing to take over from Alan Greenspan at the Federal Reserve, he promised to drop money from helicopters if necessary to prevent deflation. Having spent his academic career studying the causes of the Great Depression, Bernanke understood the danger of deflation and was determined to avoid the liquidity trap by maintaining the demand for credit. As good as his word, Bernanke, and Greenspan before him, oversaw a doubling of the money supply since 2000. Adjusted for changes in the money supply (inflation), real interest rates (the nominal rate minus inflation) were negative for several years. Instead of dropping money from helicopters, Bernanke dropped free debt.

Real Interest Rates (Nominal Rate Minus Inflation)



> The key in all of this is not inflation, as most believe. The Fed says they are most worried about inflation risks, but the reality is that they are most worried about deflation risks. Always. Always deflation. The Fed has no choice but to always remind us that the risks are tilted toward inflation, just as the Treasury Secretary, whichever one happens to be in office at the time, must always say that the U.S. maintains a strong dollar policy, even if monetary policy and fiscal policy are conspiring to devalue the dollar.

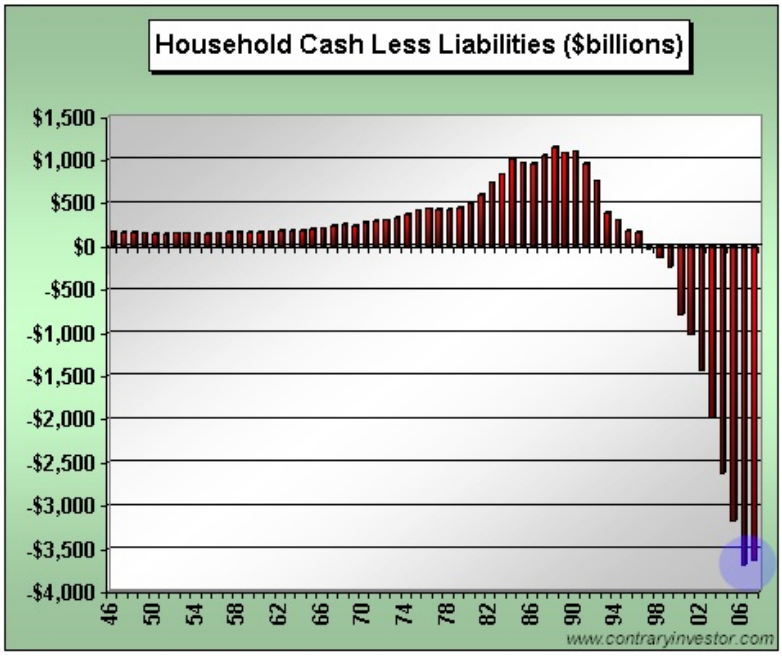
Fractional Reserve Banking and the Expansion of the Money Supply

Fractional reserve banking allows banks to lend into existence money they do not have (on the assumption that their depositors will not all want their money back at once), provided that they keep a certain percentage of their deposit base with the Federal Reserve to cover withdrawls. Ten percent would once have been a typical figure, but since the 1990s, the Fed has deliberately shepherded reserve requirements down, essentially to zero, through dropping required reserve percentages, reducing the categories of funds needing a reserve and allowing funds to be swept from a reservable category to a non-reservable category overnight (using sweep accounts). As reserve requirements have fallen, banks have been able to expand the money supply far more rapidly than would previously have been the case, at the cost of removing the cushion they previously held as insurance against financial accidents. As with everything else, the resilience has been stripped from the system in the name of efficiency, in this case in the use of capital to generate maximum returns.

The Housing Bubble and the Debt Mountain

The combination of drastically reduced reserve requirements and negative real interest rates predictably led to a borrowing binge of epic proportions, increasing what was already a dangerous level of indebtedness. Many of those whose fingers had recently been burned in the stock market turned to real estate, and, by extension, all of the supporting industries surrounding it. People

moved to larger properties, bought investment properties, renovated, upgraded and re-equipped. The surge in demand, and depreciation of the currency through rapid expansion of the money supply, led to a huge increase in property prices. This enabled owners to use their appreciating properties as ATMs, at first using the windfall for luxuries, but increasingly relying on it to fund basic living expenses through refinancing. This created both a debt mountain and a structural vulnerability to a fall in property prices.



Banks offered credit to those further and further down the credit-worthiness scale, with scant regard to the ability of those borrowers to repay their loans. Instead of holding debt on their own books as they would once have done, banks now make their money from fees and sell the loans on to investors as mortgage-backed securities. As they no longer bear the risk of default, they are unconcerned about it. They often asked for little or no information from prospective borrowers – often no proof of income, employment or even identity - leading to the label of 'liar's loans'.

With rates so low, borrowers were far more concerned with the level of monthly payments than with the balance outstanding. Exploiting this blinkeredness, banks offered a range of loans called neg am ARMs – adjustable rate mortgages with negative amortization. Borrowers were offered low 'teaser' rates for the first few years, paying less than the interest owed on their loan during that time, while the unpaid interest was added to the principle in the meantime. Often they signed the loan documents without understanding the concept of teaser rates. At the end of the teaser period, the full monthly interest payment would be due on the now larger principle at the new prevailing interest rate. As interest rates have increased recently, monthly payments on resetting ARMs are often set to more than double. In October of this year, $50 billion dollars worth of ARMs will reset, with a further $30 billion a month doing the same for over another year.

Marginal borrowers, who were often already only barely affording their existing payments, are highly unlikely to be able to afford the new ones. Their only recourse would be to sell, but falling prices have made this difficult. Some are already in negative equity – owing more on their home than its current market value. Foreclosure lies ahead for many, but mass foreclosure sales will depress property prices, exacerbating the debt problem for a wider range of borrowers. Even many quite high-income families have been enticed into a lifestyle their income could not support, and could find that falling property prices push them over the edge. As sales will be very

challenging, and bankruptcy laws have been tightened, many people could be tethered to unpayable debts for a prolonged period.

Financial Engineering – Hedge Funds, Derivatives, Leverage and the Repackaging of Risk

> [In December 2006], another bit of news reached us: the derivatives market , in which hedge funds tend to speculate, has reached a face value of $480 trillion...30 times the size of the U.S. economy...and 12 times the size of the entire world economy. Trading in derivatives has become not merely a huge boom or even a large bubble - but the mother of a whole tribe of bubbles...dripping little big bubbles throughout the entire financial sector.

The ability to expand the money supply almost infinitely has been seized on by financial engineers interested in finding new and tempting ways to dress up leverage - seemingly eliminating risk while actually making it endemic through the financial system. The resulting derivatives have been called 'financial weapons of mass destruction' by Warren Buffet.

In order to sell mortgage-backed securities to investors, banks packaged them into different risk tranches of Collateralized Debt Obligations (CDOs) – investment, mezzanine and equity - concentrating the lowest risk elements in funds able to earn an investment grade rating. In order to sell the higher risk tranches, banks commonly set up hedge funds with enough seed capital to sell the securities to themselves. As housing prices rose, the securities appeared less risky, and so were able to attract outside investment and to be leveraged by being used as collateral for further loans. High performing funds, during the era of rising house prices, were tremendous engines of credit expansion.

Alternatively, equity and mezzanine tranches were often sold to large institutional investors, such as pension funds, willing to unwittingly accept illiquid securities with fictional marked-to-model valuations ultimately based on the 'documentation' provided with liar's loans. These investors were chasing yield without realizing that they were chasing risk. The practice was colourfully referred to by insiders as 'landfilling toxic waste'.

Rather than selling the risky securities, banks could also keep them, and the cash flows they generate, but insure them against default through a Credit Default Swap (CDS) – swapping the risk of default for a cash payment. The underwriting institution can then aggregate the CDS income stream into pools, themselves divided into tranches with different risk profiles. These synthetic CDOs are based, not on cash flows derived from borrowing money, but on cash flows derived from insurance premiums paid to cover the risk of mortgage default. Institutions can even insure against the risk of default on securities they do not own – creating synthetic CDOs and effectively shorting subprime mortgages or risky corporate bonds while once again hugely expanding supply of leveraged credit. Any default could therefore result in claims to underwriters many times as large as the supposed value of the underlying securities.

The danger is that underwriting institutions willing to accept huge amounts of risk in exchange for apparently being paid to do nothing, may not actually have the ability to pay out on default. The original institutions did not seem to ask too many questions of those to whom they had readily assigned the risk of default, but risk does not go away merely because one institution has paid a

fee to another. The risk guarantee is only as good as the credit worthiness of the guarantor, and one commentator has described many credit default swaps as being guaranteed by Madame Merriweather's Mud Hut in Malaysia.

> International banking rules say that banks have to hold a certain level of spare funds (or reserves) to protect themselves from the danger that their loans might turn bad. However, since the banks had sold the risk of default on to somebody else, they could now argue that they did not need to hold these funds.
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> To anybody outside the world of finance, this might look odd (after all, the banks were still making loans); but the regulators accepted this argument, since the risk had moved, in accounting terms. And that let the banks free up funds to make even more loans. It was the financial equivalent of calorie-free chocolate: almost too good to be true.

Conflict of Interest - The Role of the Ratings Agencies

The ratings agencies that grade securities for investment purposes, and also depend on doing business with the same institutions whose bonds they rate, gave high ratings to mortgage-backed securities and did not lower them even as the housing bubble began to deflate. As the securities were not actively traded in a liquid market, the nominal marked-to-model valuations remained constant, and so did the ratings until recently. The danger is that lowering ratings below investment grade would force many institutions to sell them, potentially forcing those 'assets' to be marked-to-market where real bids, or the lack of them, would result in real market valuations. That would revalue a whole asset class at a stroke – revealing that the Emperor had no clothes.

It was a responsibility that ratings agencies were unwilling to take until forced by Bear Stearns' declaration that two of its hedge funds were essentially worthless. A small percentage of mortgage-backed securities funds have since been down-rated and more have been placed on watch, but as yet there has been no real price discovery. Many investors are currently locked into hedge funds, delaying asset sales, but financial institutions can only maintain their solidarity for so long before they will have to act to extract what value they can from their collateral, even if that amounts to only pennies on the dollar. Ratings are likely to be downgraded only when they absolutely have to be. Ratings agencies have made it clear that rating securities does not mean that they do due diligence.

> Moody's: "Moody's has no obligation to perform, and does not perform, due diligence."
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> S&P: "Any user of the information contained herein should not rely on any credit rating or other opinion contained herein in making any investment decision."

What then is the purpose of a ratings agency?

Private Equity and Leveraged Buyouts

As the housing market was beginning to decline in late 2006, the market for private equity deals,

or leveraged buyouts, was taking up the slack and feeding the credit expansion boom. Private equity was able to use a small amount to borrow huge sums of credit in order to take large companies private, with the underwriting banks able to sell the resulting securities to investors. The target companies were then often asset stripped, loaded up with debt and sold back to the public in a private equity 'strip and flip'. In this way, private equity was able to play off the public markets, extracting real value through the use of cheap credit loaned into existence for the purpose.

Many of these huge deals are now threatened, as investors are no longer willing to purchase the securities generated, leaving the underwriting banks holding the risk. Bridging loans are becoming 'pier loans' as they no longer lead anywhere.

The Inverted Pyramid - Money versus Credit (or Hyperinflation versus Hyperexpansion)

Money and credit are not the same thing, although people currently use them interchangeably. Money is a physical commodity, while credit is virtual wealth borrowed into existence. Money can be subject to inflation, either by printing currency or by debasing specie (reducing the precious metal content of coins), but does not disappear. Credit, on the other hand, can expand dramatically through financial alchemy, but has no physical existence, although its effects are certainly tangible.

> Because credit is used as a money substitute in the financial markets, it acts as an inflationary force in the asset markets (and this spills over into the real world as the imaginary wealth thus created leads to overconsumption and malinvestments), but it is all ephemeral - in the end, it is still credit, not money. As soon as money is needed in lieu of credit, such as has now happened in the CMO and CDO markets, it becomes clear that the money simply isn't there."

Weimar Germany or present day Zimbabwe are examples of hyperinflation, but the Roaring Twenties and our situation are instead examples of credit hyperexpansion. Inflation is a chronic scourge, but credit expansions are self-limiting – they proceed until the debt that creates them can no longer be serviced, at which point that debt implodes in a sea of margin calls.

> There is actually very little real cash out there relative to credit. The "sudden demand for cash" is in fact the world's biggest margin call to date.

The value of credit is only as good as the promise that stands behind it, and when that promise cannot be kept, value abruptly disappears.

> Let's suppose that a lender starts with a million dollars and the borrower starts with zero. Upon extending the loan, the borrower possesses the million dollars, yet the lender feels that he still owns the million dollars that he lent out. If anyone asks the lender what he is worth, he says, "a million dollars," and shows the note to prove it. Because of this

> conviction, there is, in the minds of the debtor and the creditor combined, two million dollars worth of value where before there was only one. When the lender calls in the debt and the borrower pays it, he gets back his million dollars. If the borrower can't pay it, the value of the note goes to zero. Either way, the extra value disappears. If the original lender sold his note for cash, then someone else down the line loses. In an actively traded bond market, the result of a sudden default is like a game of "hot potato": whoever holds it last loses. When the volume of credit is large, investors can perceive vast sums of money and value where in fact there are only repayment contracts, which are financial assets dependent upon consensus valuation and the ability of debtors to pay. IOUs can be issued indefinitely, but they have value only as long as their debtors can live up to them and only to the extent that people believe that they will.

Essentially, the gargantuan edifice of leveraged debt that has been accumulated during the years of credit expansion can be described as an inverted pyramid. Its point rests squarely on those at the bottom – for instance the subprime mortgage holders who's relatively modest debts have been leveraged into trillions of dollars worth of derivatives. Each dollar of subprime mortgage debt probably underpins at least a hundred dollars of additional debt, and these loans will go into default *en masse* once the ARMs begin to reset in earnest. The leverage that has magnified gains on the way up, will magnify losses in a debt implosion on the way down.

> Until now, his debt was an asset of the fund, and was being used as collateral against loans ten times its value. But the moment that Mr. Jones gave up on the idea of home ownership, the value of his mortgage simply disappeared. The paper asset, which derived its value from Mr. Jones's promise, was destroyed. This had a cascading effect, since Mr. Jones's mortgage was being used as collateral to borrow money to buy even more subprime mortgages, many of which were also defaulting. Assets purchased on borrowed money were now worthless. Only the debts remained, and suddenly there was more debt than the original amount that investors had put into the fund. These original funds would be needed repay the debts incurred by the fund. Nothing is left to return to investors.

Liquidity Traps and the Mood of the Market

Central bankers act as midwives for credit expansion – manipulating the cost of credit in order to encourage borrowing and lending. However, this cannot continue indefinitely as it does not occur in a vacuum. Central bankers have a range of options open to them, but ultimately the financial circumstances, and the mindsets, of both borrowers and lenders are important to whether or not credit expansion can be maintained.

> The Fed really only can do two things. They can lower margin requirements for banks, the amount of capital they have to hold to make loans. That it has already driven to basically zero. So the Fed cannot allow banks any more "leeway" than it already has.
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> They can also perform open market money operations like REPOS and coupon passes.

> The Fed calls up big banks and buys their government bonds out of their portfolio. But they don't buy them with real money; they buy them with credit newly created just for that purpose. The big bank can then lend that credit out in a much greater amount because the Fed only requires them to keep a small fraction of that credit to support whatever the bank wants to lend out. This is our wonderful fractional reserve system. If everyone went to the bank to get their "savings" at once they would find that they could get out less than 1%.
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> But here is the key. The bank must ultimately be willing to lend it and then find some investor to borrow it. This has been no problem whatsoever over the last several years. Now most investors realize that they have too much debt, that their level of income cannot support it. Banks realize this too and have increased their lending requirements. The last borrower is always the most aggressive speculator.
>
> So most market participants are now looking for ways to pay back debt (deflation) just when the Fed is desperate to get investors to borrow more (inflation).

This conundrum is a form of liquidity trap - a shortfall in demand for credit that the policy tools of central bankers have great difficulty influencing. Keynes referred to this type of scenario as "pushing on a piece of string". We are still in the early stages of this credit crunch and as yet, the Fed has not employed all the tools at its disposal. Most notably, it has not yet cut interest rates, likely due to recent Chinese threats to dump the dollar.

As the dollar should benefit from a flight to quality as credit spreads (the risk premium over treasuries) widen, there should be scope to cut interest rates later in the year. It is likely, however, that this will be less effective than the Fed would hope.

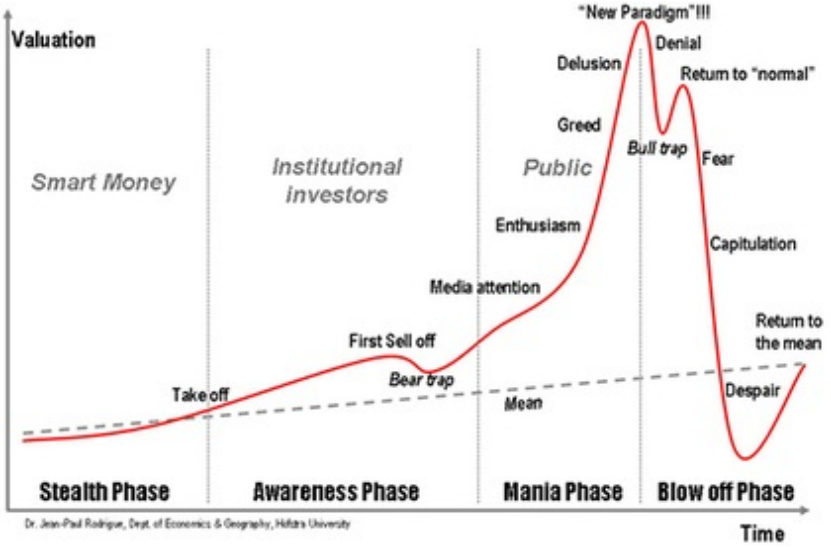
> The theory is flawed. Central banks promising new credit to strapped banks only helps them with their current problems. It will not get new credit into a system that can't take anymore. Banks, given their situation, are reducing drastically their new commitments, as they should. Borrowers can't afford to borrow more.

The continuation of the credit expansion will remain dependent on a supply of ready, willing and able borrowers and lenders, and those already appear to be in short supply.

> A trend of credit expansion has two components: the general willingness to lend and borrow and the general ability of borrowers to pay interest and principal. These components depend respectively upon (1) the trend of people's confidence, i.e., whether both creditors and debtors think that debtors will be able to pay, and (2) the trend of production, which makes it either easier or harder in actuality for debtors to pay. So as long as confidence and productivity increase, the supply of credit tends to expand. The expansion of credit ends when the desire or ability to sustain the trend can no longer be maintained. As confidence and productivity decrease, the supply of credit contracts.

A significant headwind faced by the central bankers is the dramatic change in the mood of the

market in recent weeks. It is said that humans have only two modes - complacency and panic, and markets, being a human construct, are no exception. The current mood of the market is one of fear, and if fear becomes panic, it can remove liquidity from the market far faster than even a central banker can pump it in. Actual cash is in short supply, and the many investors are afraid that the game of musical chairs will end before they can grab one of the very few chairs. If they do manage to find a chair, it will be difficult to convince them to part with it, no matter what the inducement. Risk has made a definitive comeback.



Deflation and the Mother of All Margin Calls

A credit expansion cannot be sustained indefinitely. At some point the burden of debt begins to stifle the ability to produce. The debt industry can take on a parasitic life of it's own, becoming an integral part of the culture, from the level of the individual, as documented by James Scurlock in Maxed Out, to the level of corporations and government. The attention paid to assessing credit ratings, monitoring credit activity, hounding defaulters, writing off bad debt, juggling minimum payments, thinking of creative ways to exploit leverage, and encouraging every last entity to take on more debt in order that predatory lenders might wring out every last penny of profit, is attention not paid to productive activities of the kind that build successful economies. Eventually, it requires so much energy to maintain that economic performance suffers and extracting sufficient profit to cover interest payments on ever-increasing credit balances becomes impossible. A mood of conservation eventually takes hold, replacing the expansionary fervour, and reducing the velocity of money.

> When the burden becomes too great for the economy to support and the trend reverses, reductions in lending, spending and production cause debtors to earn less money with which to pay off their debts, so defaults rise. Default and fear of default exacerbate the new trend in psychology, which in turn causes creditors to reduce lending further. A downward "spiral" begins, feeding on pessimism just as the previous boom fed on optimism. The resulting cascade of debt liquidation is a deflationary crash. Debts are retired by paying them off, "restructuring" or default. In the first case, no value is lost; in the second, some value; in the third, all value. In desperately trying to raise cash to pay off loans, borrowers bring all kinds of assets to market, including stocks, bonds,

> commodities and real estate, causing their prices to plummet. The process ends only after the supply of credit falls to a level at which it is collateralized acceptably to the surviving creditors.

In such an environment, financial values can disappear very quickly, leaving behind only stranded debt. All it takes for an asset class to be devalued is for as few as two parties among many to agree to a new lower price. The remainder need do nothing, other than refrain from disputing the new valuation, for their net worth to fall. In this way, a few discounted house sales can bring down the value of a neighbourhood, and that lost value, which may have been underpinning a hundred times its worth in leveraged debt, is magnified through the inverted debt pyramid. The majority who do nothing end up watching the investment value of their assets plummet, while the owners of debt attempt to call in whatever value they can, from wherever they can, through margin calls.

> The United States faces a severe credit crunch as mounting losses on risky forms of debt catch up with the banks and force them to curb lending and call in existing loans, according to a report by Lombard Street Research.
>
> "Excess liquidity in the global system will be slashed," it said. "Banks' capital is about to be decimated, which will require calling in a swathe of loans. This is going to aggravate the US hard landing."

> "The complexity of this era of credit liquidation," as Robert Smitley wrote of the Great Depression in '30s America , "is far too great for the mob mind to grasp. It is hardly possible for them to see the picture wherein about $700 billion dollars of physical and intangible wealth is attempting to be turned into about $5 billion dollars of money."
>
> How much intangible debt now needs to be squeezed back into how much real money? It would be easier to find a cheap mortgage – with no ugly ARM once the teaser is finished – than guess at those numbers today.