

## The Return of the Bear

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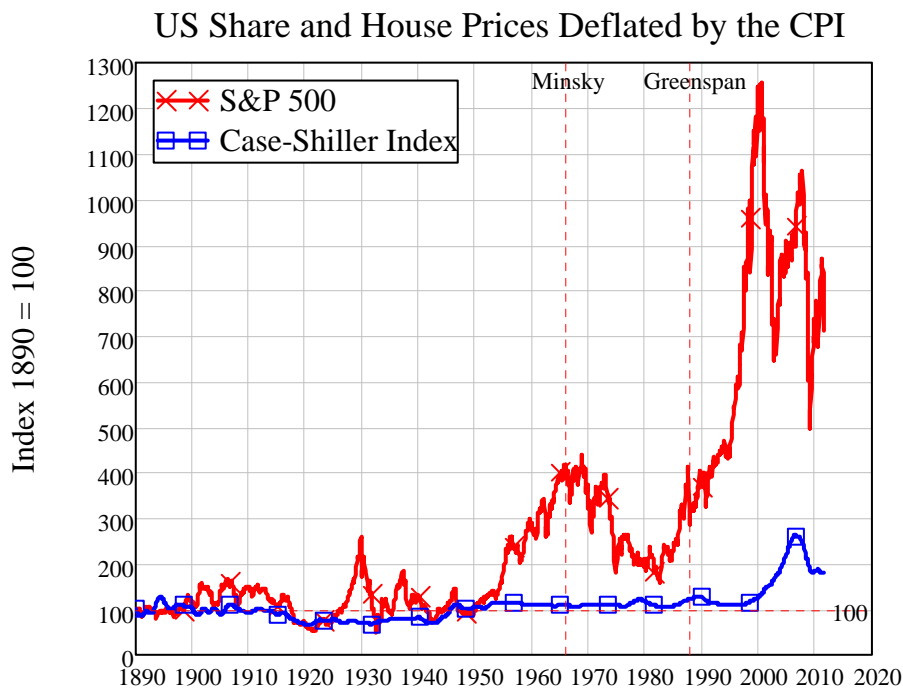
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Far be it from me to underestimate the stock market's capacity to pluck the embers of delusion from the fire of reality. However, the crash in prices and explosion in volatility that began in late July 2011 may be evidence that sanity is finally making a comeback. What many hoped was a new Bull Market from the depths of the 52% crash from October 2007 till March 2009 was instead a classic Bear Market rally, fuelled by the market's capacity for self-delusion, accelerating private debt, and—thanks to QE2—an ample supply of government-created liquidity. The 85% rise from March 2009 till April 2011 was enough to restore Wall Street's euphoria, but still fell short of the 110% rally needed to restore the 2007 peak.

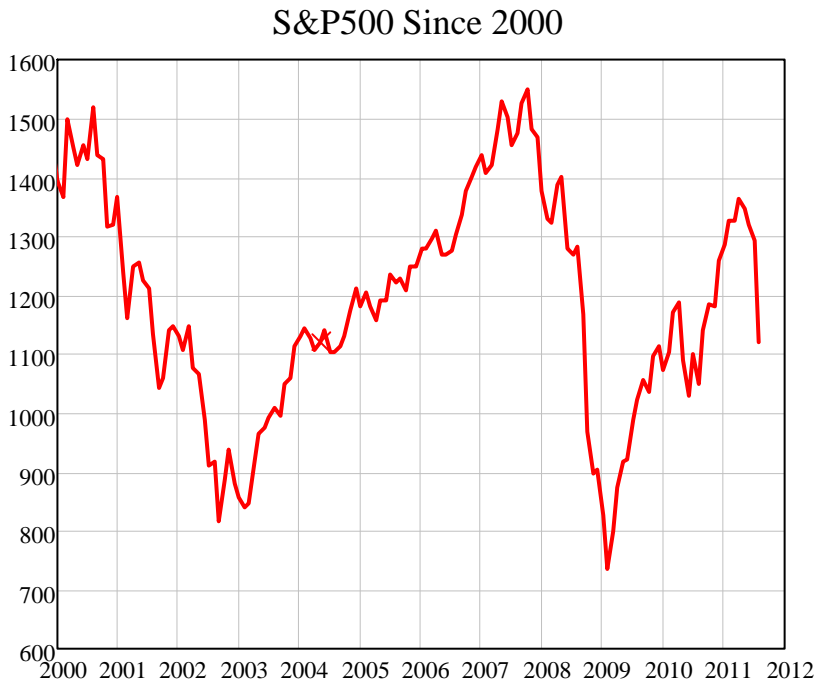
That rally ended brutally in the last week of July. The S&P500 has fallen almost 250 points in less than a month, and is just a couple of per cent from a fully-fledged Bear Market.

Figure 1: Asset prices versus consumer prices since 1890



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Figure 2: "Buy & Hold" anyone?



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The belief that the financial crisis was behind us, that growth had resumed, and that a new bull market was warranted, have finally wilted in the face of the reality that growth is tepid at best, and likely to give way to the dreaded "Double Dip". The "Great Recession"—which Kenneth Rogoff correctly noted should really be called the [Second Great Contraction](#)—is therefore still with us, and will not end until private debt levels are dramatically lower than today's 260 per cent of GDP (see Figure 4).

Figure 3: Growth peters out



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With reality back in vogue, it's time to revisit some of the key insights of the one great economic realist of the last 50 years, Hyman Minsky. A good place to start is Figure 1 above, which shows the relationship between asset prices and consumer prices in America over the last 120 years.

One essential aspect of Minsky's Financial Instability Hypothesis was the argument that there are two price levels in capitalism: consumer prices, which are largely set by a mark-up on the costs of production, and asset prices, which are determined by expectations and leverage. This argument originated with Keynes in Chapter 17 of the *General Theory*, when he noted that investment is motivated by the desire to produce "those assets of which the normal supply-price is less than the demand price" (J. M. Keynes, 1936, p. 228), and expressed more clearly in "The General Theory of Employment", where he argued that the scale of production of capital assets "depends, of course, on the relation between their costs of production and the prices which they are expected to realise in the market." (J. M. Keynes, 1937, p. 217). Minsky significantly elaborated upon this point, and this—as much as his focus upon uncertainty—was a key point of divergence from the neoclassical interpretation of Keynes:

The perception that the quantity of money determines the price level of capital assets, for any given set of expectations with respect to quasi-rents and state of uncertainty, because it affects the financing conditions for positions in capital assets, implies that in a capitalist economy there are two "price levels," one of current output and the second of capital assets. A fundamental insight of Keynes is that an economic theory that is relevant to a capitalist economy must explicitly deal with these two sets of prices. Economic theory must be based upon a perception that there are two sets of prices to be determined, and they are determined in different markets and react to quite different phenomena. Thus, the relation of these prices—say, the ratio—varies, and the variations affect system behavior." When economic theory followed Sir John Hicks and phrased the liquidity preference function as a relation between the money supply and the interest rate, the deep significance of Keynesian theory as a theory of behavior of a capitalist economy was lost. (Hyman P. Minsky, 1982, p. 79)

Over the very long term, these two price levels have to converge, because ultimately the debt that finances asset purchases must be serviced by the sale of goods and services—you can't forever delay the Day of Reckoning by borrowing more money. But in the short term, a wedge can be driven between them by rising leverage.

Unfortunately, in modern capitalism, the short term can last a very long time. In America's case, this short term lasted 50 years, as debt rose from 43 per cent of GDP in 1945 to over 300 per cent in early 2009. The finance sector always has a proclivity to fund Ponzi Schemes, but since World War II this has been aided and abetted by a government and central bank nexus that sees rising asset prices as a good thing.

The most egregious cheerleader for asset price inflation was Alan Greenspan. That's why I've marked Greenspan on Figure 1 and Figure 4: if his rescue of Wall Street after the 1987 Stock Market Crash hadn't occurred, it is quite possible that the unwinding of this speculative debt bubble could have begun twenty years earlier.

Figure 4: US private debt to GDP since 1920



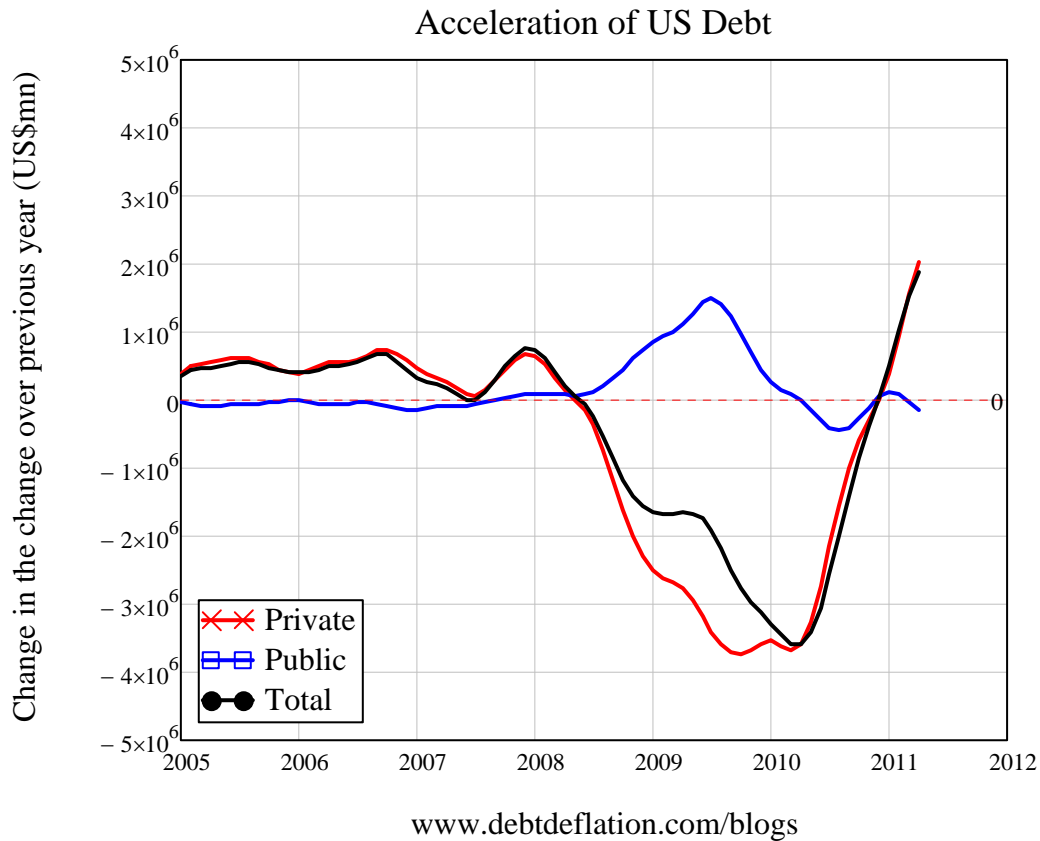
A mini-Depression would have resulted, as deleveraging drove aggregate demand below aggregate supply, but it would have been a much milder event than both the Great Depression and what we are experiencing now. The debt to GDP ratio in 1987 was slightly lower than at the start of the Great Depression (159 versus 172 per cent), inflation was higher (4.5 per cent versus half a per cent), and the “automatic stabilizers” of government spending and taxation would have attenuated the severity of the drop in aggregate demand.

Instead, Greenspan’s rescue—and the “Greenspan Put” that resulted from numerous other rescues—encouraged the greatest debt bubble in history to form. This in turn drove the greatest divergence between asset and consumer prices that we’ve ever seen.

The crisis began in late 2007 because rising asset prices require not merely rising debt, but accelerating debt. The great acceleration in debt that the Federal Reserve encouraged and the US financial system eagerly financed, ended in 2008 (see Figure). From 1950 till 2008, the Credit Accelerator<sup>1</sup> averaged 1.1 per cent. In the depths of the downturn, it hit minus 26 per cent. With the motive force of accelerating debt removed, asset prices began their long overdue crash back to earth.

<sup>1</sup> This is the ratio of the acceleration in private debt to GDP. The concept was originally called the Credit Impulse by Biggs, Meyer et al 2010 (Biggs, Michael; Thomas Mayer and Andreas Pick. 2010. "Credit and Economic Recovery: Demystifying Phoenix Miracles." SSRN eLibrary.); I believe that Accelerator is a better term than Impulse. I am still refining the concept, and—as a dynamic modeler rather than a statistician—I may make some stumbles along the way. Nevertheless, the correlation between the Credit Accelerator and change in stock indices shown in Figure 7 is 0.26 over a 25 year period, and it is highly significant.

Figure 5: Acceleration of debt and the bear market rally



However the share market rebounded again because, partly under the influence of government and Central Bank policy, private debt accelerated once more even though, in the aggregate, *private debt was still falling*. The annual Credit Accelerator turned around from minus 26 per cent in 2010 to plus 3 per cent in early 2011.

This in turn fed into the stock market, causing one of the biggest year-on-year rallies ever seen (see Figure). But it could not be sustained because, if debt continued to accelerate, then ultimately the level of debt relative to income would again start to rise. With all sectors of the US economy maxed out on credit (apart from the Government itself), this wasn't going to happen. The impetus from the Credit Accelerator thus ran out, and the Stock Market began its plunge back toward reality.

Figure 6: Private debt accelerated even though the level was still falling

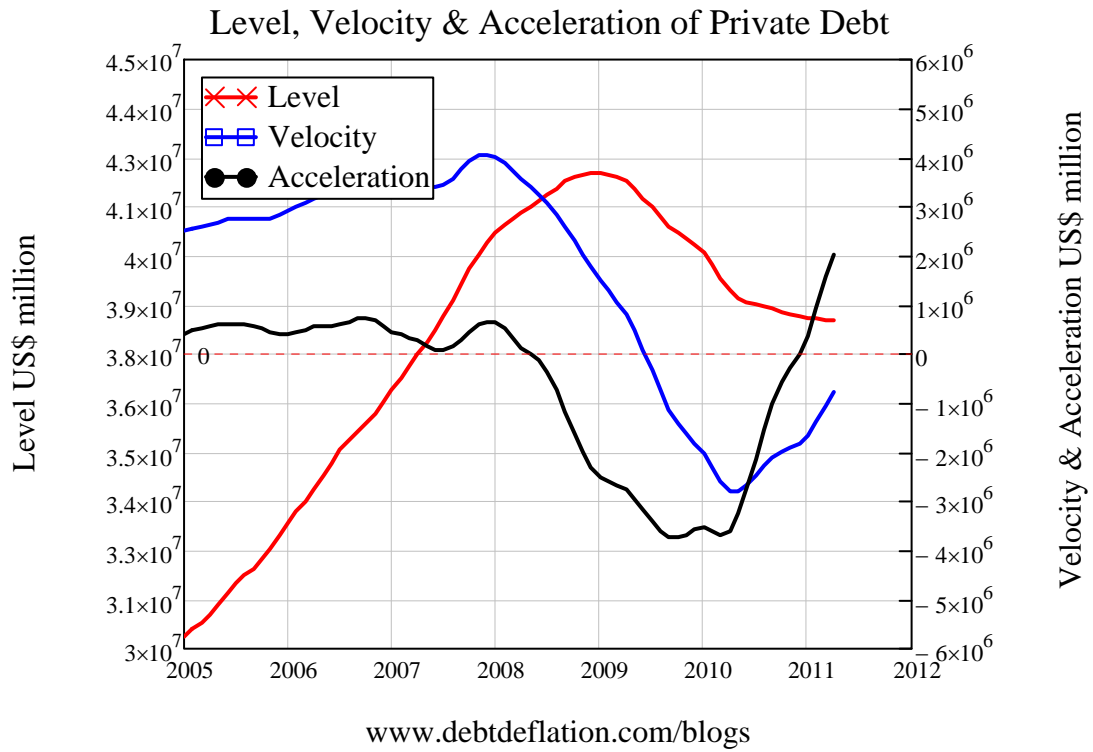
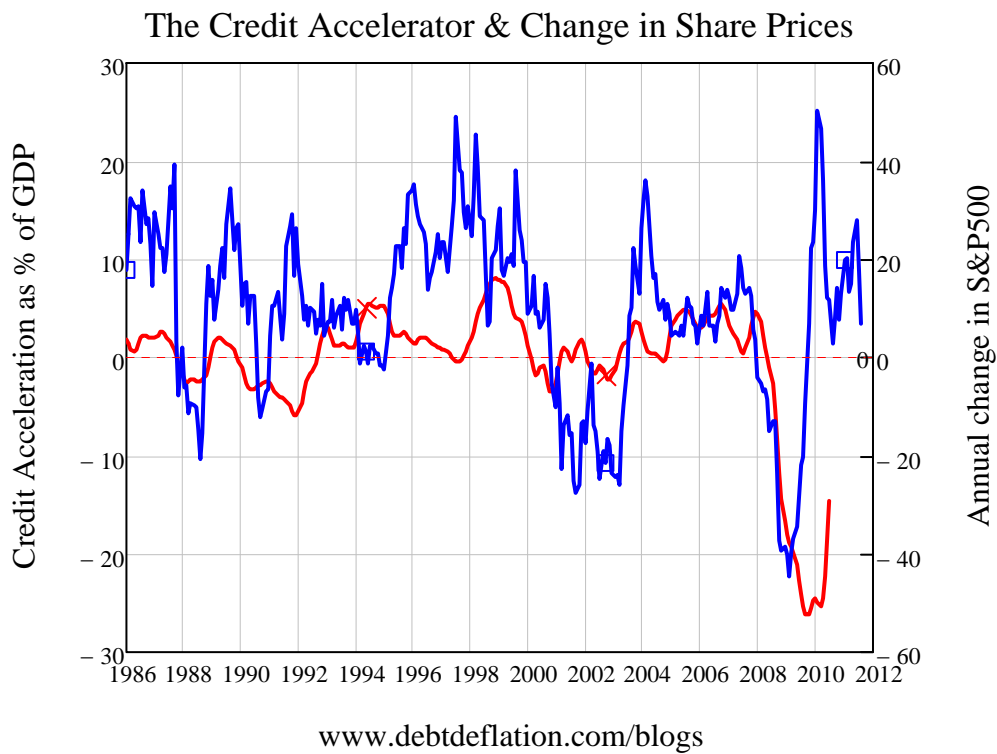


Figure 7: Accelerating debt drives rising share prices--and decelerating debt causes crashes



The stock market could easily bounce again from its current levels if, once again, the rate of decline of debt slows down. But in an environment where deleveraging dominates, deceleration will be the dominant trend in debt, and the unwinding of asset prices back towards consumer prices will continue.

How far could it go? Take another look at Figure 1. The CPI-deflated share market index averaged 113 from 1890 till 1950, with no trend at all: by 1950 it was back to the level of 1890. But from 1950 on, it rose till a peak of 438 in 1966—which is the year that Hyman Minsky identified as the point at which the US passed from a financially robust to a financially fragile system. Writing in 1982, he observed that:

A close examination of experience since World War II shows that the era quite naturally falls into two parts. The first part, which ran for almost twenty years (1948-1966), was an era of largely tranquil progress. This was followed by an era of increasing turbulence, which has continued until today. (Hyman P. Minsky, 1982, p. 6)<sup>2</sup>

From then, it slid back towards the long term norm, under the influence of the economic chaos of the late 60s to early 80s, only to take off in 1984 when debt began to accelerate markedly once more (See the inflexion point in 1984 in Figure 4). From its post-1966 low of 157 in mid-1982, the CPI-deflated S&P500 index rose to 471 in 1994 as the 1990s recession ended, and then took off towards the stratosphere during the Telecommunications and DotCom bubbles of the 1990s. Its peak of 1256 in mid-2000 was more than ten times the pre-1950 average.

Even after the falls of the past week, it is still at 709, while private debt, even after falling by 40% of GDP since 2009, is still 90 per cent of GDP above the level that precipitated the Great Depression—leaving plenty of energy in the debt-deleveraging process to take asset prices further down.

There CPI-deflated share index doesn't have to return to the level of 1890-1950—especially since companies like Berkshire-Hathaway that don't pay dividends give a legitimate reason for share prices to rise relative to consumer prices over time.<sup>3</sup> But a fall of at least 50 per cent is needed simply to bring the ratio back to its 1960s level.

Welcome to the Bear Market and the Second Great Contraction.

#### References:

Biggs, Michael; Thomas Mayer and Andreas Pick. 2010. "Credit and Economic Recovery: Demystifying Phoenix Miracles." SSRN eLibrary.

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<sup>2</sup> Minsky elaborated that "Instead of an inflationary explosion at the war's end, there was a gradual and often tentative expansion of debt-financed spending by households and business firms. The newfound liquidity was gradually absorbed, and the regulations and standards that determined permissible contracts were gradually relaxed. Only as the successful performance of the economy attenuated the fear of another great depression did households, businesses, and financial institutions increase the ratios of debts to income and of debts to liquid assets so that these ratios rose to levels that had ruled prior to the Great Depression. **As the financial system became more heavily weighted with layered private debts, the susceptibility of the financial structure to disturbances increased. With these disturbances, the economy moved to the turbulent regime that still rules.**" (pp. 7- 8; emphasis added)

<sup>3</sup> However these firms are in the minority; they attenuate the degree of divergence between share and consumer prices, but they are a sideshow compared to the explosion in the ratio since 1982.

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