

Towards Hyperinflation

A review of the gold market in the context of Western hyperinflation

Paul Tustain

Founder & CEO, [BullionVault](http://BullionVault.com)

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IT's the comfortably off middle-classes who get destroyed by hyperinflation. They tend to continue trusting the institutions they have trusted all their lives, and by the time they grasp what is happening it is too late.

It may look odd to start a review of this risk with a discussion of gold. But starting with the basics is the best way to get the hyperinflation process understood.

Understanding gold as a store of value

Many people ask "Why is gold valuable when it is so useless?" It's a reasonable question and there is a reasonable answer.

The total amount of gold in the world is 160,000 tonnes and it is worth about \$5 trillion. Formed into a cube it would have an edge of 20 metres and would not cover a tennis court. The size of the cube is growing slowly at about 11cm per year, as miners extract more gold from the Earth, and the annual rate of growth in the weight of the cube is 1.5%. This rate of growth has been extraordinarily consistent for 2,000 years.

In about 2025 the cube will measure 22m, and will weigh about 205,000 tonnes. The missing 45,000 tonnes is close to the underground (as yet un-mined) reserves on the balance sheets of the world's gold miners. So a 22m cube, which would cover a tennis court, represents reasonably well all the gold in the world – both above and below ground.

Mining output is currently diminishing slowly. This trend is likely to continue for the foreseeable future, firstly because worthwhile finds have been declining rapidly as the world's geology becomes ever better mapped, and secondly because what finds do occur get delayed between discovery and exploitation by increasing environmental and geo-political obstacles. No early acceleration in production is expected.

Gold's long- and medium-term price performance

Over the ultra-long term gold offers little or no growth in purchasing power. Two thousand years ago, an ounce of gold bought some 350 loaves of bread. It's not so different now. Similarly an ounce of gold would buy a Roman senator a quality toga, nowadays it would buy a respectably smart suit.

But if gold is dull over the very long term it is anything but over periods of 10 or 20 years. Between 1980 and 2000 it lost about 87% of its investment purchasing power. This was a period favouring growth. Debt – both public and private – was modest, money was sound, rates were generally falling, and the microchip had provided the

potential for massive productivity gains. This produced the best environment in a generation for growing businesses, and accordingly in this period nothing performed worse than gold; the one asset which would steadfastly refuse to grow.

But offsetting this ability to lose value in good times is gold's ability to gain value in times of economic stress. Between 1971 and 1980, a decade of inflation, its investment purchasing power rose 15 times in real terms, and trounced all other asset classes.

Less well known is that from 1929 to 1934 gold's investment purchasing power rose 17 times – during a deflation. Gold – provided it's physically owned – tends to do much better even than currency during a deflation. That's because deflation kills creditors indiscriminately, which is very bad for both depositors and bondholders.

But why is it that gold does these strange things during inflations and deflations?

The usefulness of gold

While gold is very hard to find it is also only of negligible industrial use, a fact which makes people who are too pragmatic assume it should have no value. Yet they seem willing enough to collect \$20 bills which have an undeniable use in society, even though for practical purposes they are even more useless than gold.

Gold's key utility is that its reliable scarcity and its uselessness combine to give it one particularly useful feature – an extraordinarily stable supply. That cube of gold is much the same size now as it was 10 years ago, and it will be much the same size in 10 years time. What is often overlooked is the potential social value of something which has this feature of an incredibly stable overall stock.

About 5,000 years ago people started trading, and quickly invented money to store value between a revenue and an expense. They understood immediately that money – to work as a store of value – had to remain scarce. Gold fits the bill.

Even including the major finds in Latin America (16th Century), California and South Africa (19th Century), gold has remained a hard-to-find element which for 4,000 years has avoided sudden expansion of its supply, and because it has proven so stubbornly useless, we have aggregated the whole lot as a store of wealth without using it up.

About 70% of that cube is currently owned as jewellery. About 11% is held privately in coin and bar form, and the remaining 19% is held by the world's central banks. So far as we know, no-one has willingly thrown gold out with the rubbish, so apart from the negligible quantity which has actually found an industrial use, those figures mean the entire supply is held to store wealth in one way or another.

Now that we understand these fundamentals, we are just about able to pin down the elusive source of gold's value, and explain the oscillations which occur. We must do this in the accepted economic way – by reference to marginal utility.

The exceptional property of gold is its reliable supply, which society has found occasional use for in storing value. But gold is not unique in offering a reliable supply, because well managed currencies offer it too. Indeed, well managed paper currencies usually do a better job than gold, because in the right economic circumstances they add a growth potential which gold lacks.

Suppose you had two neighbouring countries, each with a capacity to grow their economies by 3% per annum. One might adopt a paper currency, and the other a gold based currency. While well managed, the paper currency would be able gradually to expand the supply of capital, which would allow entrepreneurs to finance their plans, and customers to buy products, so the economy would grow and everyone would become steadily wealthier. That is a good reason for expanding the monetary base slowly, and it wouldn't cause inflation.

But cross the border to where there is a gold-based currency, and the supply of capital will be tightly rationed by gold. It will not stretch to financing the available opportunities, and the result will be relative underperformance economically.

Before long, gold-backed currency gets dropped by popular demand, and a lagging economy will finally be allowed to achieve its growth potential.

Yet the time will eventually come when, after many years of successful and well managed expansion, the paper based currency shows its essential flaw. The difficulty is that it is impossible for the currency managers to assess whether a lack of growth in economic activity – a recession for example – reflects a shortage of cash for capital projects, or an economy which has no more niches to grow into.

If expansion capacity has finally run out of steam, perhaps because there is too much debt, or too much tax, or simply because every conceivable service is being provided already, then throwing new money into the economy no longer favours genuine expansion. It now tends to produce inflation.

Then, particularly when it can be newly created, and borrowed artificially cheaply, and when a large source of previously frozen savings money is tempted out into circulation, then currency stops being reliably scarce.

This is when gold gets remembered. As the reliable scarcity of currency gets corrupted by monetary expansion, savers' demand for the reliable scarcity they need to store value exceeds its supply, and the item which supplies that missing utility, which gold assuredly does, rises in price until its utility balances on the boundary between nervous buyers and sellers.

Perhaps when money is no longer useful, or when governments work out perfection in economic management, then gold will languish permanently. But for the moment both of those seem some way off. Meanwhile with 50 trillion in dollar-denominated bonds increasingly piling up at the short end, ready for redemption into brand new, quantitatively eased dollars, there is a growing probability that the \$5 trillion aggregate value of all the world's gold could look like a materially better choice of medium-term value store.

Towards hyperinflation

Hyperinflation is widely accepted as a period of out-of-control price rises achieving a doubling of prices inside three years. It occurs when a currency loses its ability to store value, encouraging long-term savings to pour into circulation where they swamp the much narrower supply of consumer money, and cause the whole lot to lose purchasing power.

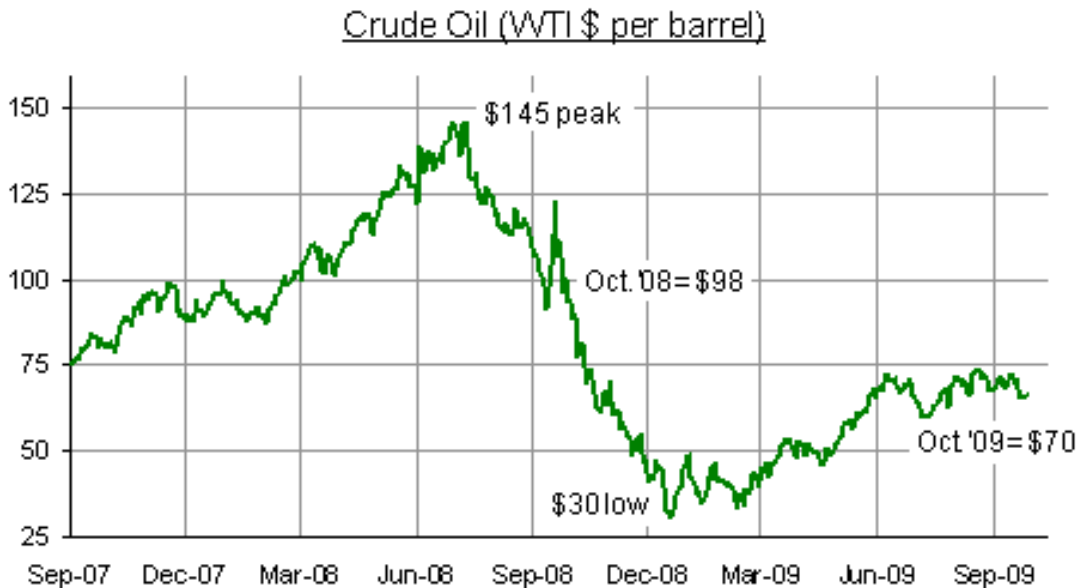
There is no specific recipe, but there are signs. Below are four important indicators:

- Commodity price inflation;
- Large debts, particularly government debt;
- Long-term low returns for savers;
- A source of new money – usually the printing press;

Unusually, all are now pointing in the hyperinflationary direction. They are worth looking at in some detail.

Commodity prices: Oil's July '08 spike

The published inflation figures are surprisingly unsophisticated in so far as they compare current prices with a snapshot a year earlier. Just over a year ago, oil was every hedge fund manager's favourite speculation. In summer 2008 a barrel got to well over \$140, before falling sharply back.



Source: EIA

That summer's high oil price had the effect of cancelling out the deflation which was occurring elsewhere in the economy, as the first phase of the credit crunch started to bite. It helped keep inflation *up*.

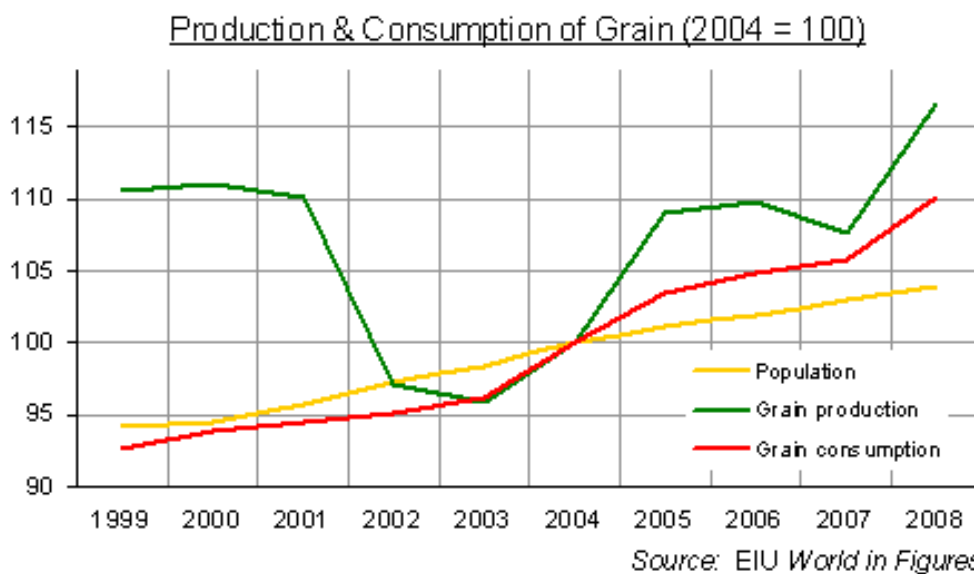
But by summer 2009, after hitting a trough of \$30, the price was back down around \$65 representing an annual fall in the oil price of over 50%. Now it was keeping the inflation figures *down*. Oil would continue to be below the price of 12 months previous throughout the period from January 09 to September 09.

Today – in Autumn 2009 – prices are more or less where they were a year ago, but 12 months ago they were falling fast, while now they are rising. So for the first time in over a year the effect of oil prices in the inflation figures, in October/November 2009, will be *up* again. And by January, even if prices don't continue to rise from here, the \$30 price of winter 2008/9 will form the base, and oil will again be at twice the price it was a year earlier. This will have a marked impact on inflation data.

The 2008 bumper harvest

There are well over two billion Chinese and Indians who used to make the unwelcome but necessary market adjustments when world grain prices rose: 30% of the world's population went hungry. Until the current decade, that was an important part of how world demand came into line with dips in world food production, before big price rises would cause Westerners to feel the sharp pain of a world food shortage.

This has now changed, and permanently. The wealth and dollar reserves of the Asian countries are now large, and their people are not going to go hungry in future (and quite right, too). Instead they will be competing on world markets, and the price of grains will start to show the very sharp spikes associated with unreliable supply and a newly inelastic demand in critical commodities.



You may remember the food riots of early 2008, and how they seem to have disappeared. Well, that occurred after a small dip in world grain production in 2007. Fortunately, by its end, 2008 had turned into a bumper year for the global food harvest and a serious crisis was averted. That bumper harvest brought global food prices down again – but for how long?

In the chart above, the aggregate of both production and consumption for rice, wheat, sugar, maize (corn), barley, sorghum, rye, oats and millet, gives a gross annual tonnage of grain produced and consumed, which – rebased – compares the annual supply and demand of world food calorific value to population. The data show:

- The world's population increases without a pause;
- Consumption increases without a pause, but at a faster rate than population, so the average human being was eating more grain calories by 2008 than in 1999. Indian and Chinese economic progress led us to expect we would see this;
- There is no obvious upward trend in production;
- Four times in nine years world production fell. Consumption never fell;

- 2008 was clearly a bumper harvest.

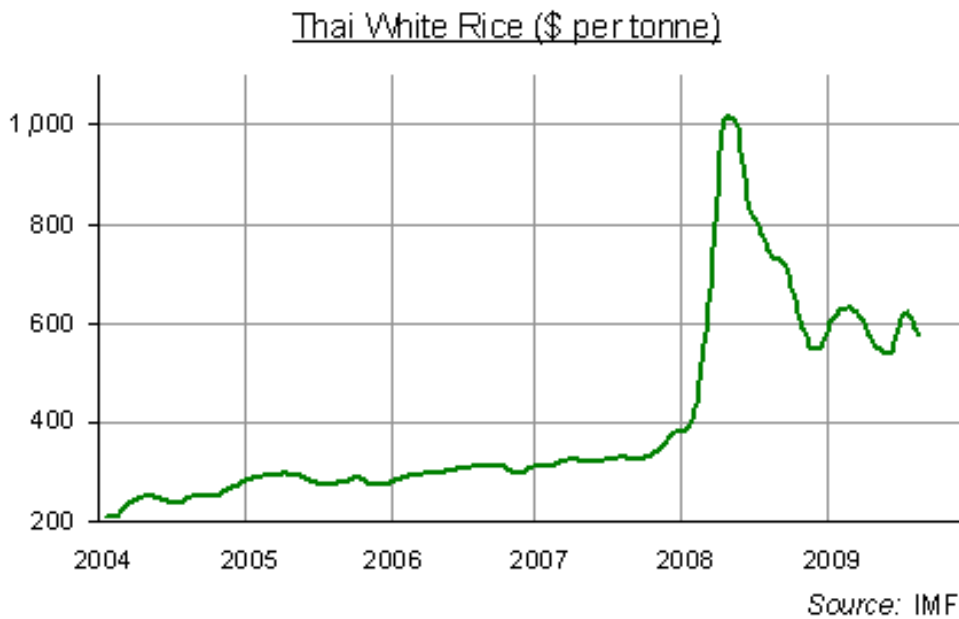
2009 forecasts are encouraging in some areas, although the picture is not as uniformly benign as 2008. Corn and soya in the USA appear to be looking good. But the International Grains Council predicts 2009 wheat production at 654 million tonnes, and that's 4.8% down from 687m tonnes the previous year. They also predict a small 0.5% rise in all-grain demand – with Chinese and Indian increases being mainly in their wheat consumption – while a 15m tonne increase for ethanol production is less than balanced by a reduction in the use of grains in animal feed of 10m tonnes.

This must surely affect grain markets, as well as reducing the supply and increasing the price of meat. Sugar is already known to have had a poor season. India, the world's second largest producer, had bad rains this year, and Dow Jones reports an anticipated global production decline of 12% from the bumper year of 2008. Prices of raw sugar are already up dramatically, from \$0.12 per pound to \$0.20 in 4 months.

First sugar, now rice

Rice looks similarly tight. The most recent reports in the *Financial Times* suggest that Indian planted acreage was reduced by an extraordinarily large 17.5% (surely an error) but nevertheless the poor rains are said to have lowered yields so that the final monsoon crop – in Uttar Pradesh, a major growing region – could be as much as 25% lower.

Rice gives us a hint of the nature of price movements we should learn to expect. From a stable base it spiked viciously upwards (+300%) as it sucked in speculative money during the 2008 panic. But when it fell back as panic subsided it still remained twice the original base level. It is from here that the next upwards spike seems to be starting.



In a similar pattern sugar has already started to cool off a bit, but pepper is in the earlier stages. At the end of August it rose 17% in a week on news of a poor crop arising from adverse weather in South East Asia.

Unlike camcorders, food is not a discretionary purchase and under the harsh law of marginal utility, together with the new inelasticity of Asian demand, even modest food shortages will cause sharp price spikes, and maybe more riots, which indeed started to appear in Asia in September 2009, with tragic consequences.

When necessities are in short supply people behave in the opposite way to normal. Instead of reducing demand they tend to panic and stockpile food for safety, perversely increasing demand on those higher prices. This makes any price spike still more severe, and necessities end up squeezing private discretionary spending out of the shopping trolley. Still, offsetting the coming price rises in food and energy are declines in the prices of manufactured goods. Increasingly these are in surplus as suppliers – who in these highly automated times have very low marginal costs of production – continue to churn out discretionary purchase goods which fewer people buy, and only then at deeply discounted prices.

This ultra-low marginal cost of robotic production of manufactured goods is a new phenomenon in the economy. Nowadays the main production cost for manufactures is the fixed (once off) cost of setting up expensive production lines. Once completed these production lines can produce goods at such low cost that there is less choking off of supply when demand falters. Because the production line set-up cost is already sunk, the manufacturer doesn't turn off production until production itself becomes loss-making.

Accordingly the oversupply of manufactures reaches a higher peak, and the accompanying low prices depress reported inflation deeper, and for a longer period; but only for manufactured things which people are buying less of. No-one in government or the statistical services is in a particular hurry to reflect this in the reported inflation figures, but it is a phenomenon which savers – who are consumers too – widely understand.

Irreversible budget deficits

The second marker for hyperinflation is wild optimism in the planning of national budgets, which leads to irreversible budget deficits.

In the United States President Obama recently announced planned budgets over the next ten years which take the national debt, currently \$12 trillion, to over \$20 trillion. It's hard to visualise what this means, but let's suppose that the dollars borrowed were arranged in piles of \$10 bills. The daily pile of borrowing would be 86,000 feet high – that's three Mount Everests worth of \$10 bills, which is the additional borrowing now planned for every single day over the next 10 years!

Its affordability is justified by reference to debt as a percentage of GDP, and an optimistic expectation of strong economic growth. Let's look at the credibility of those assumptions.

The US Department of Commerce, which publishes the [historic statistics](#), shows that over twenty years from 1988 to 2008 reported real GDP growth averages at 2.8%. Yet according to the [Congressional Budget Office](#) – responsible for future budget plans – we can expect real GDP growth for 2011, 2012, 2013, and 2014 well above that long established trend, at a comforting 4.0%. That looks almost ridiculously optimistic.

Previous growth, having averaged only 2.8%, had already been stimulated artificially to produce the USA's biggest ever boom in consumption, firstly by home re-financing products, and secondly by President Bush's tax stimulation packages of 2001 and 2003, which expire in 2010. All of these stimulants are now finished.

Against this background it seems impossible to project that growth can accelerate at well above the trend which included such stimulation – and after a financial bust too.

Seasonally adjusted % change at annual rates

	Year	2008	2008	2009	2009
	Quarter	III	IV	I	II
GROSS DOMESTIC PRODUCT (GDP)		-2.70	-5.40	-6.40	-1.00
Personal_consumption_expenditures		-3.50	-3.10	0.60	-1.00
Goods		-7.70	-10.00	2.50	-3.40
Durable_goods		-11.70	-20.30	3.90	-5.80
Nondurable_goods		-5.60	-4.90	1.90	-2.20
Services		-1.30	0.50	-0.30	0.20
Gross_private_domestic_investment		-6.90	-24.20	-50.50	-24.40
Fixed_investment		-8.30	-20.20	-39.00	-13.50
Nonresidential		-6.10	-19.50	-39.20	-10.90
Structures		-0.10	-7.20	-43.60	-15.10
Equipment_and_software		-9.40	-25.90	-36.40	-8.40
Residential		-15.90	-23.20	-38.20	-22.80
Exports		-3.60	-19.50	-29.90	-5.00
Goods		-1.80	-25.50	-36.90	-7.00
Services		-7.70	-4.30	-13.60	-1.00
Imports		-2.20	-16.70	-36.40	-15.10
Goods		-3.70	-19.60	-41.00	-16.50
Services		6.10	-0.90	-11.50	-9.00
Govt_consumption_expenditures_and_gross_investment		4.80	1.20	-2.60	6.40
Federal		13.20	6.50	-4.30	11.00
National_defense		19.80	3.80	-5.10	13.30
Nondefense		0.10	12.70	-2.50	6.20
State_and_local		0.10	-2.00	-1.50	3.60

Current US GDP is officially stated at \$14.2 trillion, and it is extrapolation from there on which the affordability of the debt is based. But \$14.2 trillion looks sort of incredible too. There are 180m workers in the USA, and they are paid an average of \$43,000 gross – yet they produce and consume \$79,000 worth of production per head, if GDP is to be

believed¹. How do they do this? It seems possible that the GDP figures have previously been reporting a regular growth which isn't actually there. Statistically it's not so difficult to generate over-optimistic figures, and if you really need to believe them you can – sort of – provided you don't check they make sense with some of the other numbers.

US statisticians would not be the first to overestimate the value of the services which government provides to its population, especially if each mistake was greeted with a warm welcome from political and business bosses.

I agree, it sounds silly. But the question is worth asking in the context of the recent GDP data published in August, because that data had people sighing with relief that the recession is almost over. Look more closely under the hood though (the table on page 8), and the headline rate of 2nd quarter 2009 GDP growth – much improved at minus 1% – was in fact composed of a string of horrible figures from the private sector and a massive increase in 'production' by the government.

Taken together we should probably conclude that the US national debt will not be contained at 'just' \$20 trillion. Yet at even \$20 trillion there is a very big problem.

During the 1980s Paul Volcker was the last US Federal Reserve Chairman who had to get inflation back under control. To do it, he took interest rates to 18%. But he did this when the national debt was only \$700 billion, a mere 3.5% of what it is (optimistically) projected to in 2019.

So let's be extraordinarily generous and say that Mr Bernanke, or his successor, has to control inflation by raising rates to only 5% – much less than the 18% previously deemed necessary.

The cost of a \$20 trillion national debt costing 5% per annum in interest rates would be \$1 trillion, or \$10,000 per annum in taxes per year for every American family, just to pay the interest, i.e. before a single government service was delivered. That is the cost of maintaining a \$200,000 per family national debt.

The unavoidable conclusion is that, on-plan, the US cannot react appropriately to a developing inflation problem. The G20 pronouncement that interest rates would stay low for the foreseeable future was true. There is no alternative to permanently low interest rates on these budget figures.

Russian petrol

Twenty five years ago the Russians found themselves in a similar hole.

They had an official price for petrol (gasoline) of 1 rouble. But the cost of providing it, for example by buying it on world markets, was 8 roubles. In so far as the state could supply any petrol to anyone at all it was definitely going to be at a big loss.

Yet they obstinately refused to accept that their price was wrong. How we laughed at this dogmatic denial of the discipline of the market. We put it down to some sort of political imperative, but in fact it was much simpler than that.

¹ The US [Census Bureau](#) has population at 304m, of whom – according to the [Bureau of Labour Statistics](#) – 59.2% are working. Each is [earning an average](#) of about \$43,000.

Rather than lose money at a world record rate the Russians responded by distributing official petrol in limited quantities, and only to favoured clients, which in their society meant party members. The members used to fill up their Zil limousines with this cheap petrol, and effect a supply chain to retail via the simple device of draining their tanks into the jerry cans of local teenaged entrepreneurs – at 6 roubles per litre. That left the last 2 roubles to the entrepreneur, who sold it on the side of the street at 8, with hardly a murmur from official sources. They were getting rich, after all, and the taxpayer was footing the bill.

Substitute USA for Russia, and credit for petrol, and you have the essence of what is going on now. Can you get a mortgage in America or the UK at 2%, even if you pay a 50% deposit on your house? Certainly not. In America only government mortgage agencies (Fannie and Freddie) and megabanks which are too big to fail have access to the 0.5% credit provided by the Fed. And once again, those megabanks are making very large sums, much of which gets distributed via bonus pools to those with an unremarkable talent for on-selling this cheap credit at market rates of 5% or thereabouts.

Political leaders regularly rail against greedy bankers, but the problem – all that cheap money – has for the last five years come directly from the false market in credit extended by ultra-low rate policies sourced in the Treasuries of the West.

Who's at fault is academic. The issue now is that this artificially low interest rate environment can set off a hyperinflation chain reaction, just as it did in Russia once market forces prevailed.

1. Savers will continue to experience the real inflation which most are already aware of, and it will apply more and more on their non-discretionary purchases, like food and energy;
2. They will become increasingly irritated that their currency assets earn interest at the very low officially published rates – typically less than 1%. To beat that they would need to take big risks by lending to minor institutions. These are the smaller banks which are insignificant enough to be allowed to fail and therefore do not get access to cheap central bank money. They are the only ones which have to bid market rate to get depositors' money. Of course they will eventually fail, because they are competing in the loans market against megabanks with unfairly cheap money and a government guarantee to protect them;
3. Savers will begin to understand that the government cannot adjust to higher rates because its own enormous borrowing costs forbid it;
4. Savers will cash in their deposits and steadily sell/redeem their bonds, anticipating that bonds in general will repeat their 70s performance, and shed value continually over the medium to long term. (By 1980 the bond market was a shrivelled rump, and it didn't re-appear until 1986, when inflation was well under control.)
5. Central banks will collect the unwanted bonds (Quantitative Easing programs have so far collected nearly \$1 trillion) and create new cash to pay the sellers – again, large and favoured client banks;

6. Savers will re-invest, carefully avoiding things which will repay them nominal dollars (i.e. deposits and bonds). Everything else will go up in price as the new Fed cash seeks better stores of value;
7. More and more savers will reach their inflation pain threshold and start at Step 1 above.

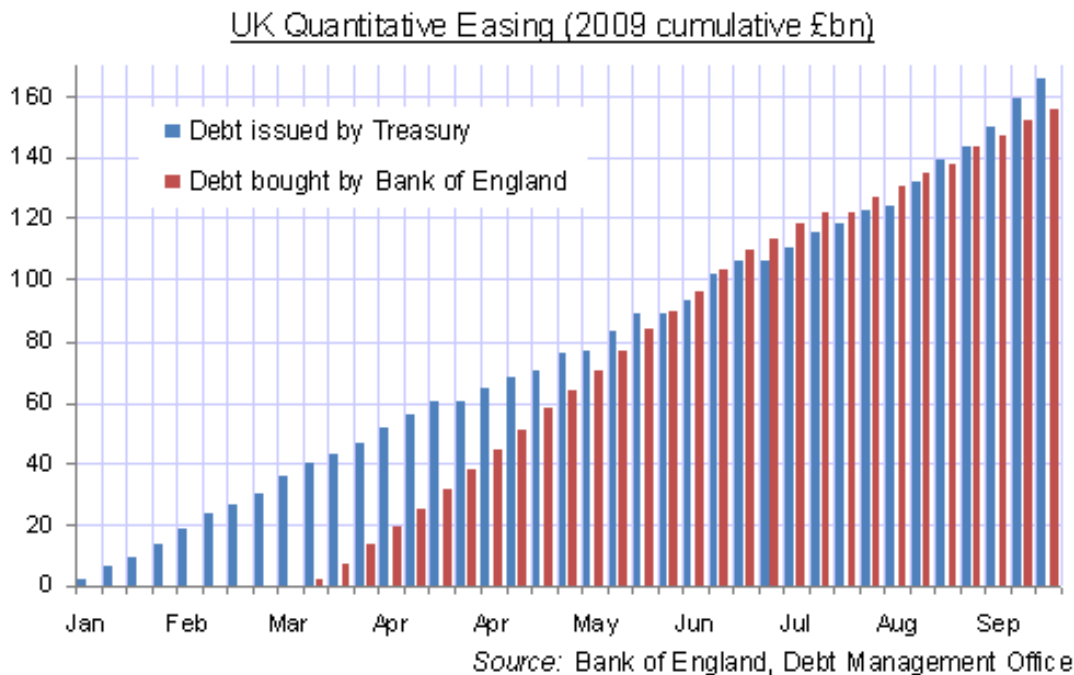
The melting of a glacially frozen stockpile of \$50 trillion in bonds performs the role traditionally played by the printing press. Not much else is different from previous hyperinflation episodes.

In the end, those who have saved for their futures could form our own Babushka generation of pensioners. Paid out monthly, and in full, their pension will buy them a sandwich or two. The nominal value of sovereign debt will not decline, but the value of it will inflate away, taking with it the value of all those bonds.

We could end up needing to remove a couple of zeros from banknotes, because otherwise the coinage will be melted back into nickel and copper ingots as soon as it is issued, and then sold to the Chinese.

London leads the way

The British government has already taken the privileged client status to its usual conclusion, and now only the British government itself is afforded the benefit of the cheapest cheap loans at the rate it declares as official.



This chart shows the net cash requirement of the government, plotted against the quantitative easing programme of the Bank of England, which only accepts British Government Securities as assets against which it can print new cash.

There is a simple way to look at this picture. The British Government has no money to fund its massive public spending program and ongoing debt repayments, and so it

has made itself the only recipient of all the money which it requires the Bank of England to print, and then lend at rock-bottom rates.

1-in-5 shot at hyperinflation...?

One of the two most influential economists of the 20th Century – Milton Friedman – once said "Inflation is always and everywhere a monetary phenomenon". He may have been wrong, although, given time, he was generally right on this one.

If he turns out to be right again then the monetary expansion we have already seen will result in inflation, which the enormous levels of sovereign debt make it impossible to correct with higher interest rates. That, together with the novel phenomenon of a large overhang of currency denominated bonds, provides a potential for hyperinflation.

It may not occur immediately, and it may not occur at all. But on the basis of what you now know perhaps you would accept that the probability of hyperinflation has increased to – shall we say – 20% within 5 years? That is a level of risk which is material, and that is why the early movers are already doing something about it.

If currencies are racing each other to the bottom the vital thing is to exit deposits and bonds. Some will exit to land, some will exit to equities, some will exit to real estate, some will exit to commodities, and some will exit to gold. They each have their merits, and their risks. They are already moving up in price. In fact there's a lot to be said for a balanced approach involving them all.

Paul Tustain

Founder & CEO, [BullionVault](#)

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