Beware Another Debt Crisis, This Time From The East

- **Global equities are leaping ahead full of confidence**
- **In the excitement, we have lost sight of debt levels**
- **The next major debt crisis is large; it is found in China**
- **Should China slip on a debt bubble, global equities will sell off**

Equity markets are surging higher as globally coordinated growth in Asia, Europe and the US raises the prospect of a new wave of accelerating top line corporate performance so boosting profits and dividends.

A measure of the 12-Month performance of major stock markets, when measured in USD terms shows the returns ranging from -0.31% in Russia to +50.50% in Turkey, Figure 1.

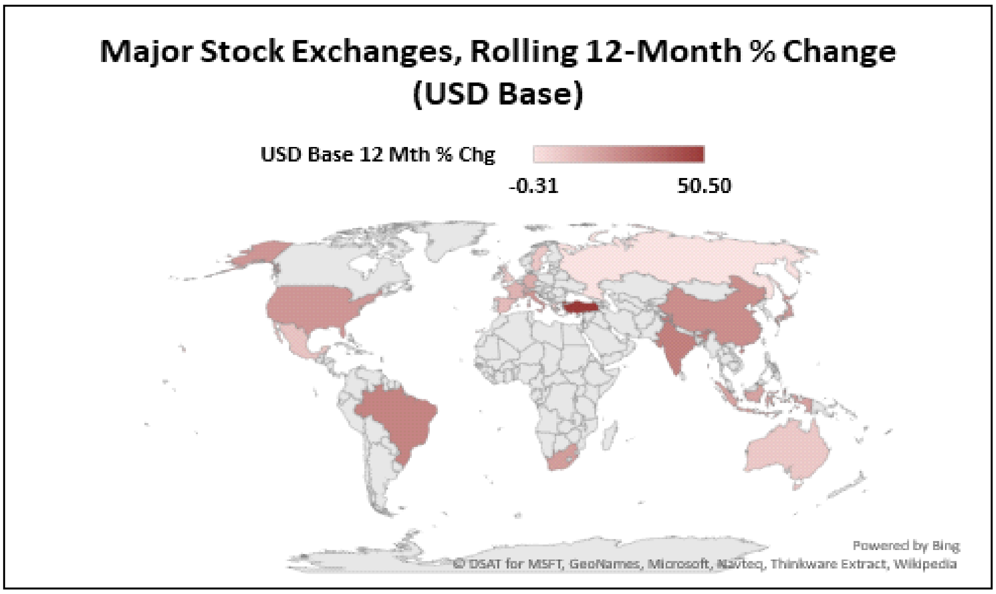

Figure 1: Source www.investing.com and Spotlight Ideas

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Indeed, if we take the Spotlight Global Equity Index over the past seven years, (Figure 2), one will observe that after a decline on worries over China's economy in 2015, (red circle) a steady appreciation in value, i.e. +50.24% since February 12, 2016 when an impulsive channel was established.

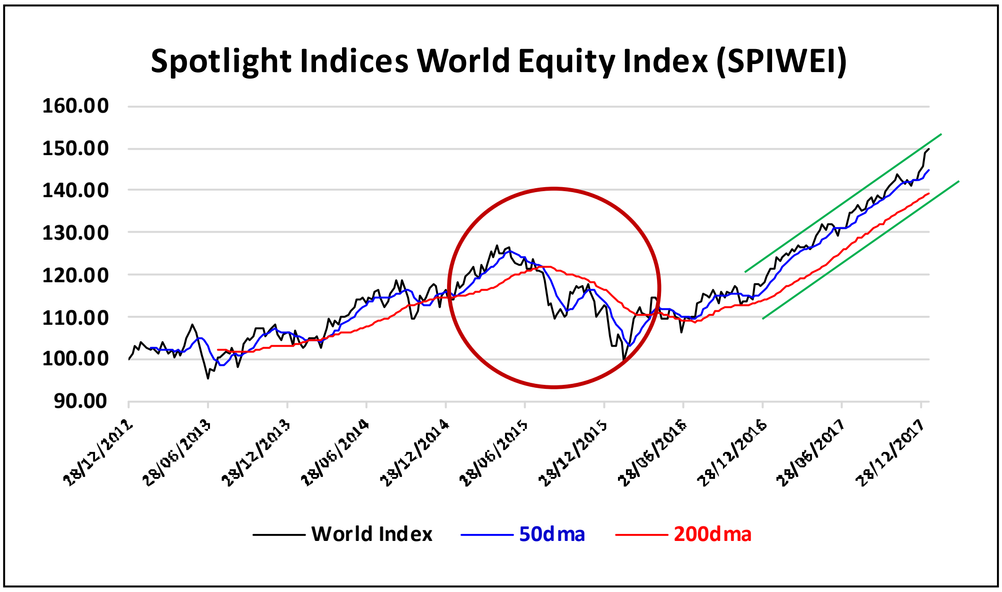

Figure 2: Source Spotlight Indices

There is, however, a nagging issue we would be well served not to overlook. The level of total global gross debt to GDP ratio has reached nearly 250%, rising from just over 200% at the end of 2007.

Such a level of debt burden surely should be a reason to at least raise an amber flag, if not a red one. These would question the sustainability of the recovery, especially at a time when the world's leading central banks are preparing to raise interest rates, albeit slowly. The desire to move away from excessive monetary accommodation, if rushed could easily be the trigger for another global crisis.

Defining debt

Let us be clear, a degree of debt is not necessarily a bad thing, especially if the borrowing is undertaken to make improvements. To a home (personal level), business expansion (corporate level) or to national infrastructure (sovereign level). Of course, to the borrower, debt must be regarded as a liability and yet to the prudent and diligent investor, debt is an asset…so long as full and timely repayment is calculated as being probable…and not just possible.

When public-sector debt is too high the only way it can be serviced is by imposing tax increases or borrowing more. Eventually, this becomes a foolish exercise. As free spending, interventionalist politicians have always found out, usually too late, aggressively raising taxes chokes off economic growth as enterprise and incentive evaporates. Seeking to borrow ever larger amounts against a backdrop of a weakening exchange rate will simple see potential investors demand an ever-higher level of interest be paid on new borrowing.

Just look at the case of Greece. It discovered in 2009/10...when the debt burden was too high at 146% of GDP and couldn't be serviced, austerity was the price to be paid for external assistance.

The imposition of such suffocating austerity onto an economy that was already in free fall with growth at -5.0% was not the answer. The level of Greek debt to GDP has risen as the economy has contracted to now stand at 179%. *(Greece should been let go from the Eurozone, something we argued for in 2010 through 2012)*

This is a lesson in economic reality i.e. when one nation sells its debt to another the creditor is facing both interest rate and exchange rate risk. Eventually, when the duel risk profiles become unacceptable, no new debt will be acquired. The result is that the price of the debt will teeter on the edge and then collapse. As a consequence yields will soar, in turn makes future borrowing even more expensive...maybe prohibitively so.

The cusp catastrophe response surface:

The two dimensions of interest rate risk (R_i) and exchange rate risk (R_{FX}) can be drawn as a proxy for "*value*" in a chart to map the market. In conventional graphic form we plot time (x axis) and value (y axis).

If we accept that history does not repeat itself, then time and value are independent. To fashion a model to explain market movements from the benign to a catastrophe we need to introduce independent variables into the analysis.

Assume a set of n independent variables $(X1;X2;...;Xn)$, then x_i represents realizations of X_i.

These factors then determine the predicted values of y_t given x_i, meaning that for each value x_i there might be predicted values of the market state variable.

In the model illustrated in Figure 3 we lean heavily upon the theories of René Thom and Christopher Zeeman and the idealized graphical model of the "*Cusp Catastrophe Model*". It models "*continuous causes*" giving rise to "*discontinuous effects*".

This points toward the fold or cusp which captures the transition from bullish or controlled rally/optimistic behaviour to bearish/panic conditions without even touching a controlled correction.

The Cusp Catastrophe model proposes two parallel surfaces. The upper behaviour or equilibrium surface is represented by an asset price across time and depth (z-axis) and surface is further subdivided into a sheet representing bullish behaviour and a bottom sheet of bearish behaviour.

Each point on the behaviour surface is a dynamic point between supply and demand for the asset in question. As liquid markets are fluid each point is incremental and transitory.

Near the centre of the behaviour surface of the model is the fold curve or cusp. This point is unique in that there is no demand supply point that is available until the top sheet is reached after a buying stampede or the bottom sheet is reached after a selling panic, i.e. when the value derived from a given level of interest rate and exchange rate risk becomes unacceptable.

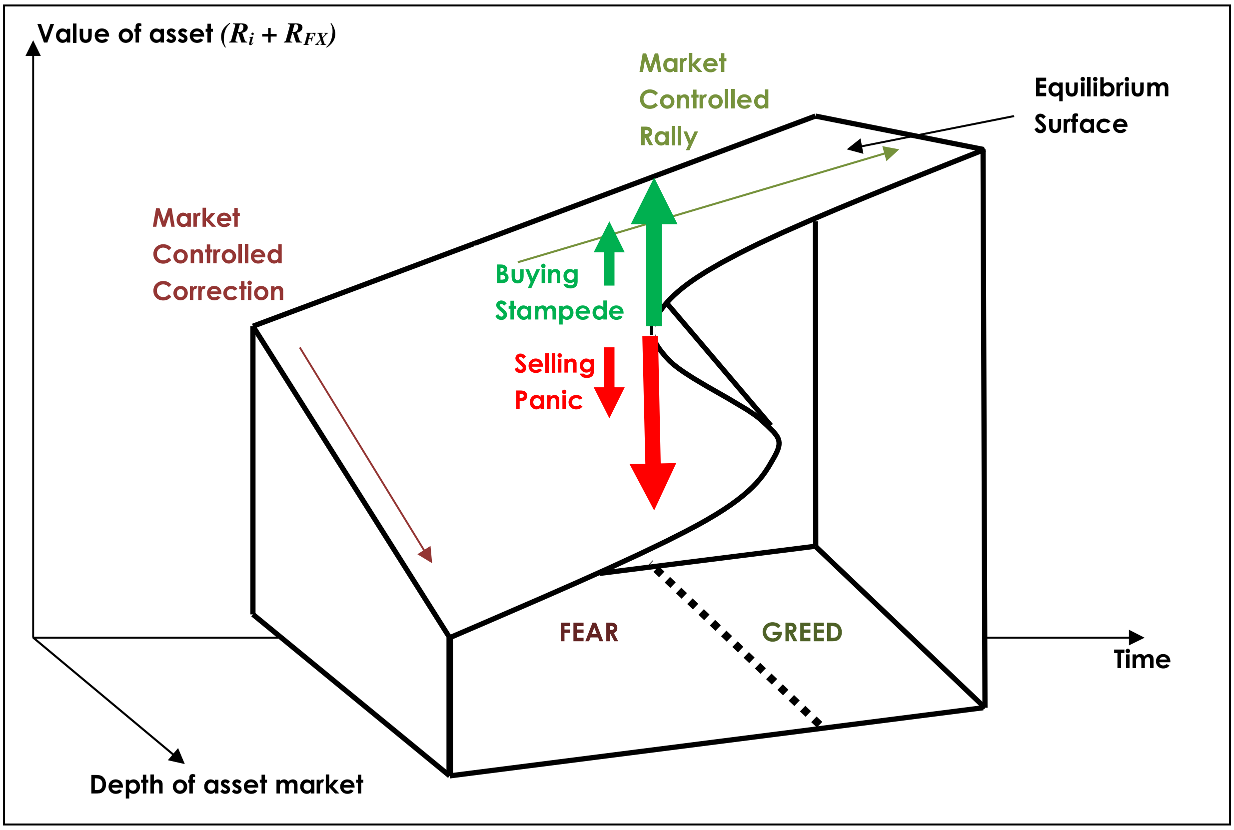

Figure 3: Cusp catastrophe model of asset value and depth over time   Source: Derived from [1 and 2]

According to the Cusp Catastrophe Theory the point at which panic selling takes hold can be predicted as the set of n independent variables $(X1;X2;...;Xn)$ all simultaneously combine to create a *"Dissipative Gradient"* just before the catastrophic plunge in asset value.

Hence, the break in price action can be anticipated. Close examination of the price behaviour within the zone of the Cusp, or threshold will reveal behaviour patterns that could be profitably analysed and interpreted via technical analysis.

What quantitative mathematicians are looking for is not inefficiencies in the flow of information. Rather, they have discovered investors are diverse, expressing different reasoning about the information they receive. They have different time horizons and that they have different attitudes to risk as measured by interest rates and foreign exchange levels. Even if two asset managers are working on portfolios with identical objectives and parameters, they will not match in time, size and direction every trade they make.

Why, even if all asset management were managed by a series of super computers, the slightest variation in the programming or indeed to the speed at which an order was sent to an execution desk, or the execution desk reacts would have differing resonances that would reverberate within the portfolio with lengthy variations.

Debt and diligence

If one moves from sovereign debt to the private-sector, be it personal or corporate debt one must analyse the debtor's cash flow, i.e. salary or revenue. Can it, in a specific period cover all servicing and maturing obligations?

Maturity plays an important role in both public- and private-sector debt evaluation. The longer until a debt is due then there is greater time for prices to adjust thereby reducing the probability of a confidence shock and a market catastrophe. That is why many distressed sovereigns and corporates face an inverted yield curve, i.e. in 10-years' time the economy may have corrected, however, repayment in 12-Months may be highly questionable. Of course, that is not always the case for a corporate entity if the market questions whether or not the company will even be around in the medium-term.

Acquiring or issuing such debt as an investment may be reasoned by due diligence. However, an unexpected calamity or misfortune can curtail the cash flow to the extent that debt cannot be serviced let alone maturing amounts be redeemed. Only highly speculative or "*vulture*" investors will be willing to take a stake, certainly at a large discount to the face value.

When debts cannot be serviced the collapse of confidence among investors and the deepening sense of despair among debtors will trigger a sudden wave of deleveraging that quickly morphs into a full-blown financial crisis. In short, the market for such assets endures its own dissipative gradient in a full-blown cusp catastrophe.

Do not neglect household debt to GDP levels

One solution that has been promoted many times when an economic slowdown looked likely was to promote cheaper credit to households so that they would keep spending. Following the recession of the early 2000' s the provision of easy money for households led to property price inflation and massive equity withdrawal that allowed households to increase their spending despite stagnant wages.

Banks have been blamed for extending easy credit and they have been supported through dealing with bad debts by quantitative easing. This has facilitated another recovery driven by consumer spending as households, have increased their personal debt to pre-crisis levels. Sadly, the corporate sector has not increased investment spending. Rather, cheap money has been hoarded or used to buy back shares and boost dividends.

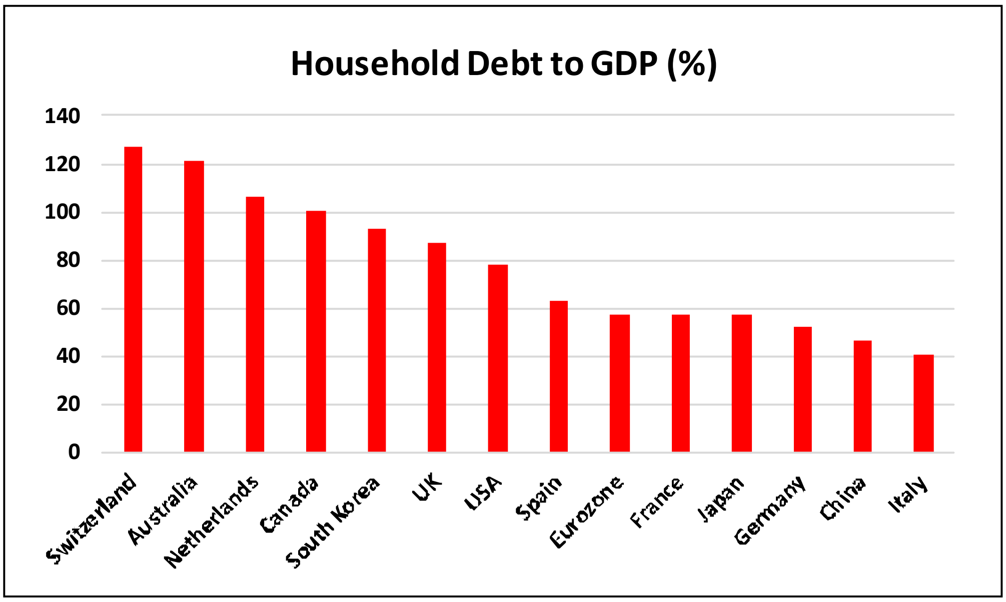

Figure 4: Source National Statistical Agencies

At the start of this essay we said that there was a global coordination of growth in three key geographies. This, being largely driven by consumer activity will last until consumers are faced with the fact that they are *"maxed out"*, i.e. over-extended and are unable to borrow any more, or until their creditors make the same determination and turn off the spigot of liquidity. Then, as households have to tighten their belts in an extreme fashion the economy will fall into recession again.

It cannot be avoided whilst the growth of household income is less than the growth of potential output. If it is, aggregate demand or GDP, will only be maintained by easy credit followed by retrenchment.

The old style, traditional Keynesian remedy of the state maintaining the economy by running a fiscal deficit and supporting aggregate demand either by its own expenditures or by transfer payments is unlikely to work again.

The solution of massive state spending is the solution of the left-wing and yet it cannot be sustained on three counts:

1. *Further borrowing will be met with a rising yield requirement and an increasing amount of money will be directed not at boosting the economy but servicing existing debt.*
2. *Debt levels relative to GDP are already high and more borrowing will simply pile up financing and repayment problems deep into the future.*
3. *To work, in a globalised environment, such interventionalist policies require a level of international co-ordination that has proved unachievable and unsustainable.*

Keep a watch on wages

Not all countries can run a trade surplus. The policy of high monetary accommodation has all but eliminated the possibility of competitive devaluation. If all are doing it, then no-one can succeed.

Trade imbalances grow, and so does global indebtedness and eventually international creditors become concerned when they tot up sovereign, and private sector debt.

Easy money has been used to inflate the values of financial assets as against financing new investment. However, as technological developments take hold they seem likely to reduce the demand for less-skilled labour. This will further exacerbate the level of inequality and hence heighten the distribution-demand problem. Incomes are too concentrated in profits and high-end wages for the economy to grow in a stable fashion.

There have been proposals of a *"citizens income"*, or *"universal basic income"* with several heavyweight supporters such as Mark Zuckerberg, Stephen Hawking, Elon Musk and Bernie Sanders. However, one of these is an astro-physicist, one a left-leaning politician and two great entrepreneurs. When it comes to driving growth, Zuckerberg and Musk are worth listening to, but not the others. Stick to science and left-wing fantasy.

To assess such a scheme, look at the structure trailed in Finland.

In January 2017, Finland began paying a random but mandatory sample of 2,000 unemployed people aged 25 to 58 a monthly EUR560. They face no obligation either to seek or accept employment during the two years the trial lasts, and any who do take a job will continue to receive the same amount.

This scheme must be financed by higher taxation of high earners and of capital. The problem with such redistribution is the taxation or appropriation that must precede it.

That is difficult to achieve in a world of mobile capital where everyone is anxious to attract it and hard workers may not mind paying taxes for health and education...but will not accept simply funding essentially an extension to the welfare system.

Are we looking in the wrong direction?

We don't expect a crisis in the Eurozone, US or UK in the near future as the overhang of private debt from the last crisis has made a good proportion of households more determined to repair their own private balance sheets. So, in the developed world private-sector credit-based demand will be low cf. pre-crisis levels.

Instead, the next crisis that could destabilise global markets are likely in countries which side-stepped the full force of financial fallout in 2007/8 by continuing their private debt bubbles.

The ongoing efforts of China to stabilize the economy by flooding the markets with liquidity have resulted in a soaring level of debt has restrained its economy. When coupled with the overcapacity that developed as China raced ahead to an industrialised future on a wave of easy and cheap money, it finds itself in a situation similar to that which faced the US in 1929 following a period of rapid growth and credit expansion.

The main concern is China's credit bubble is the fastest growing in economic history. Lai Xiaomin, Chairman of China Huarong Asset Management, China's largest state-controlled bad bank says:

"...There is a bubble in the price of bad assets ...If you don't understand the market for bad assets or asset restructuring and merging, for non-professionals there is big risk. Not only will you not make money, you will also lose money. ..."

Chinese debt is so large its scale is becoming almost unimaginable, Figure 5. Charlene Chu of Fitch said:

"...Everyone knows there's a credit problem in China, but I find that people often forget about the scale. It's important in global terms ... It can create a problem of proportions that people would think is never possible. We're moving into that territory. ..."

History is littered with examples of economies that have overbuilt, over-leveraged, and overreached and sought to stave off a collapse of the market by flooding it with easy money. In 2016/17 China did just that and this appears to be what is driving commodity prices higher since April 2017.

In 2016 China has spent nearly USD200 Billion to prop up its stock market, USD65 Billion was used to absorb non-performing bank loans and financial frauds have cost investors at least USD20 Billion. On top of this some USD600 Billion has been lost in capital flight.

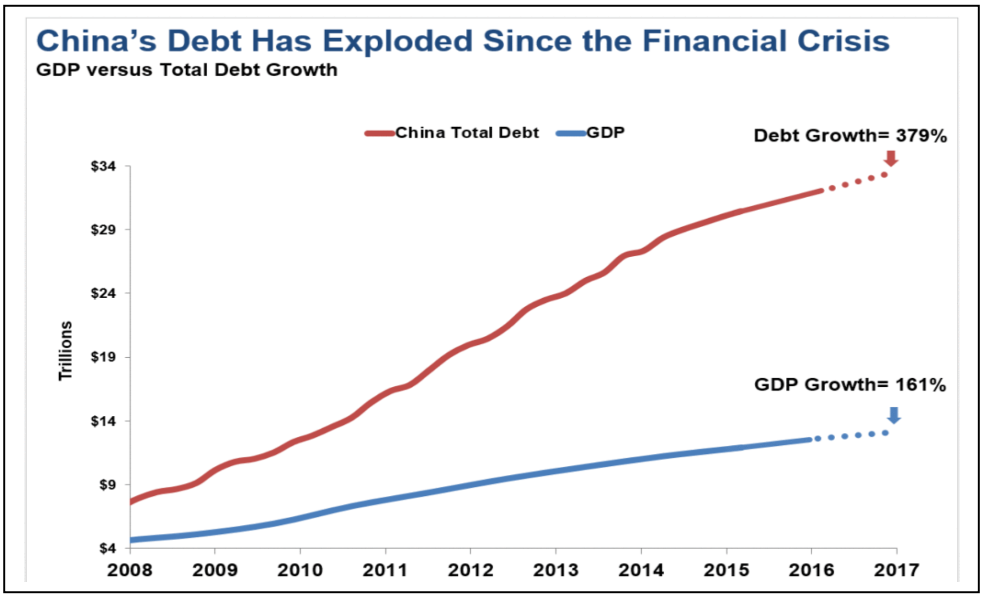

Figure 5: Source Seeking α and Bloomberg

Total debt is now nearly 300% of Chinese GDP. The China banking sector is three times the size of the economy and credit growth in China is of such a magnitude that the margin of error for estimates as to its size is now measured in USD Trillions.

There is no transparency as debt in China is recycled into a system of interbank loans and securitized investment vehicles. These are packages of risky loans structured like a bundle of mortgages in the form of a bond.

- *Ring the alarm bells as this sounds like the US sub-prime mortgage crisis!*

Given the opaque nature of the market it is virtually impossible to see how much of the debt is worth investing in, or how much is primed to implode. We are on the cusp of a Chinese catastrophe as measured in Figure 3.

The People's Bank of China (PBOC, has been moving toward gentle monetary tightening and raised interest rates for open market operations by 5 bps on December 14, 2017, hours after the Federal Reserve's decision to tighten monetary policy. The rate for 7-day reverse repurchase agreements were raised to 2.5% and that for the 28-day reverse repurchase rate was increased to 2.8%.

It was the third rise for repos in 2017 after a move in March that followed a Fed rate rise. At the same time, PBOC raised interest rate for its one-year medium-term lending facility (MLF) by 5bps to 3.25%. These moves caused investment in real estate and infrastructure to fall.

If the economy were to stall and the market slips toward, even a contained collapse, then the Chinese economy will be hobbled and that means an aggressive market shock for the world economy.

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