Grey Swan Research

Finance Geostrategy & Technologies

Trends & Forecasts 2016

A Perfect Storm ?


Global growth
China
A perfect storm?
Five things that could lead to the next global recession
US
Markets
Oil

Forewords

To say that the world is changing rapidly is an understatement. Until recently the world was evolving. Now it's mutating. What is the difference ? An evolution is a slow process you can monitor, while a mutation appears out of the blue, almost instantly, making it very hard to anticipate.

Since the beginning of the 21st century the world is changing at a pace never seen before, to a point where most of the old rules and methods, used to analyze and understand markets, economy, politics, sociology and geostrategy, are showing their limits.

Even the "brightest" minds can not figure it out anymore (which should be alarming) with their sophisticated, although inefficient, metrics and models.

Here is the introduction of a study ("*Persistent Overoptimism about Economic Growth"*) published by Kevin J. Lansing and Benjamin Pyle in the *Federal Reserve Bank of San Francisco Economic Letter* (February 2, 2015) :

Since 2007 Federal Open Market Committee participants have been persistently too optimistic about future US economic growth. Real GDP growth forecasts have typically started high, but then are revised down over time as the incoming data continue to disappoint. Possible explanations for this pattern include missed warning data signals about the buildup of imbalances before the crisis, overestimation of the efficacy of monetary policy following a balance-sheet recession, and the natural tendency of forecasters to extrapolate from recent data.

And the conclusion of the same study :

Research has identified numerous instances of persistent bias in the track records of professional forecasters. These findings apply not only to forecasts of growth, but also of inflation and unemployment (Coibion and Gorodnichenko 2012). Overall the evidence raises doubts about the theory of "rational expectations". This theory, which is the dominant paradigm in macroeconomics, assume that peoples' forecasts exhibit no systematic bias towards optimism or pessimism. Allowing for departures from rational expectations in economic models would be a way to more accurately capture feature of real-world behavior (see Gelain et al. 2013).

As important as the fact that top analysts predictions - not only from the FED, but also from the IMF, the BIS, the World Bank, BoE, BoJ, ECB and PBoC - are quite often wrong in their very area of expertise (economic analysis, GDP, inflation, unemployment and worldwide economic forecasts...), is the fact that solutions submitted by the same people that failed to see obvious things coming, are based upon wrong premises from the start, are at best ineffective and at worst counter productive, as we can see.

This new 24/7 interconnected environment we live in - this “global village” as once said the Canadian philosopher Marshall Mc Luhan - has became a very chaotic place indeed.

The world is now similar, in many aspects, to any constantly evolving complex system. Therefore it should precisely be studied like a structure/organism of that nature, with appropriate tools.

Furthermore, thanks to computer omnipresence in our environment (smartphones, smart-watches, tablets, desktops, laptops, supercomputers, *Cloud computing*, the *Internet of Things* and proto *A.I.*), and the *Convergence* and integration in our world of recent revolutionary technologies (namely biotechnologies, cognitive sciences, nanotechnologies and information technologies), we may have reached a point where, for the first time in human history, the complexity of our world doubles every 18 month, following some sort of meta-*Moore's Law.*

Meaning, literally, that *exponential* complexity has just started to break loose.
Meaning there is a lot more chaos to come.

An interesting sign that we live in a more complex/less predictable world, is the emergence of the expression “black swan(s)” a few years before the 2008 crisis.

Since Nassim Nicholas Taleb coined the expression in 2004 in his eponymous book *The Black Swan,* to describe events than can not be predicted by humans nor by - if not intelligent yet - “smart” algorithms, black swans seems to become more and more common, to the point where there is not one day that goes without earring about a new one !

Nonetheless at *Grey Swan Research* we believe that most of those so called black swans are still predictable events (therefore being “grey swans”), provided you have the right tools to help you foresee what others don't.

Among the notable events that led to a more chaotic and complex world the past two decades, we've witnessed :

The Russian bond crisis and the emerging market crisis in 1997-1998, the internet bubble deflation and 9/11 in 2000-2001, the following wars in Afghanistan and Iraq, the housing bubble and subprime crisis that led to the *Great Recession* of 2008, the Arab Spring, soon followed by regime changes (from secular to religious) in arab countries, and then, since 2011, wars in Iraq (again), Libya and Syria.

The birth of an islamic caliphate, the European financial crisis, the rise of nationalist anti EU, and secessionists movements in eastern-Europe as well as in Scotland, England, Greece, Spain and even France (with corsica), the war in Ukraine, followed by economic sanctions, counter-sanctions and rising tensions between EU, USA, and Russia.

And more recently markets corrections which started with China's economic slowdown in august 2015 and again in january-february 2016. Tensions in the South China Sea between China and USA, the tested hegemony of the pertrodollar by Russia, China, India, Iran, and others, the accelerating switch of power from west to east, wars and *proxy wars* for middle-east domination between Sunni and Shia muslims, the constant rise of terrorism all around the globe, the first FED rate hike in 7 years, a worldwide currency war, the fall of commodity prices (oil bellow 30$/barrel), the inflow of refugees in an already economically weak Europe, etc, etc...

If we turn back to watch closely the chain of events that led us where we are now, all the wrong decision made, all the bad solutions implemented along the road, and the acceleration of actions/reactions to the events cited above, we believe that 2016 will be a pivotal year on both the financial and geopolitical levels.

Actually 2016 may well be the starting point of a major worldwide crisis. A crisis once again triggered by a predicable financial and/or a geopolitical event (which could even be linked to a black swan of high magnitude, for good measure). An unprecedented crisis so big in scope that it could be a “once in a lifetime event” that could dwarf all previous crisis and, during the process, wipe-out around 75% of worldwide money.

And maybe the most obvious sign that we are heading to this next major worldwide crisis is that main stream media are already starting to talk about it, meaning that it is already happening.

Here is the 6th of february's rather long headline of *The Telegraph* :

“*Debt, defaults, and devaluations: why this market crash is like nothing we've seen before. A pernicious cycle of collapsing commodities, corporate defaults, and currency wars loom over the global economy. Can anything stop it from unravelling ?”*

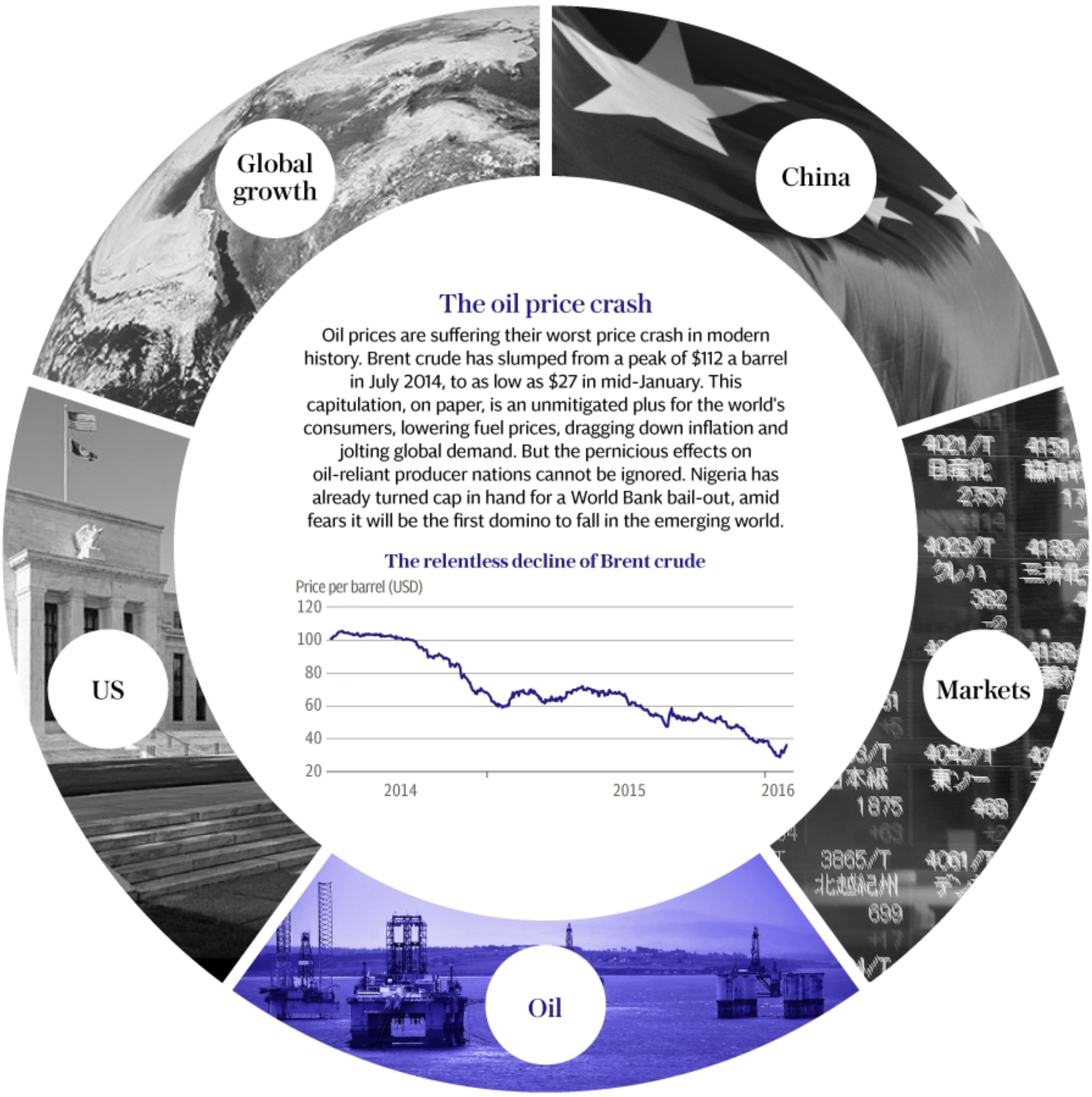
So, with no further ado, here are some of the grey swans that could very much bring down the financial markets (and in the process led to more wars, terrorism, civil unrest, economic depression, and chaos) in the next 18 months.

Because unfortunately we do not see any of what we described above getting better or even slowing down in 2016.

Quite the contrary...

Alexis CHORON
Senior analyst
Grey Swan Research

Marseille, the 29h of february 2016


Global growth
China
US
Markets
Oil
The oil price crash
Oil prices are suffering their worst price crash in modern history. Brent crude has slumped from a peak of $112 a barrel in July 2014, to as low as $27 in mid-January. This capitulation, on paper, is an unmitigated plus for the world's consumers, lowering fuel prices, dragging down inflation and jolting global demand. But the pernicious effects on oil-reliant producer nations cannot be ignored. Nigeria has already turned cap in hand for a World Bank bail-out, amid fears it will be the first domino to fall in the emerging world.
The relentless decline of Brent crude
Price per barrel (USD)
120
100
80
60
40
20
2014
2015
2016

I Oil

Oil prices under 30 US$ a barrel is of course very interesting for consumers, but it is a very bad environment for oil producing countries around the world, which have lost (and are currently loosing even more) billion of dollars a month in revenue (and profits) since 2008.

Coming from 141 US$ a barrel the 07/07/2008, oil has lost 85% of its value since then, and hit a twelve years record low at 26 US$ a barrel the 11/01/2016.

That is indeed a main concern for OPEC (Saudi Arabia, Venezuela, Nigeria...) and non OPEC members (like Russia), considering that the break-even production price worldwide is at around 90 US$ a barrel, ranging from 51 US$ for Kuwait to an enormous 207 US$ for Libya.

In the USA alone, oil companies bankruptcies is up 379%, with 14 bankruptcies reported in 2014 and 67 in 2015. The junk bond market related to oil companies is now valued at around 1.3 trillion US$ and could start a wave a defaults that could put more pressure on the markets if the bankruptcy rate is not slowing, and there is no reason it does soon.

According to a recent study by Deloitte Consulting, *nearly 35% of publicly traded oil and gas exploration and production companies around the world – about 175 firms – are at high risk of falling into bankruptcy.*

Having a production cost at around 100 US$ a barrel, and accounting for 33% of OPEC production alone, Saudi Arabia has been very badly hit by the sharp fall in prices and specially by a sub 30 US$ barrel.

The Saudi stock exchange has long entered the “bear market territory” (-20%), being down 40% since its highest of april 2015 and down 16% year to date. Stock exchanges in the region (Bahrain, Kuwait, Qatar, Dubaï...) also plummeted.

During the past 18 month, the Saudis had to sell an astounding 100 billion US$ of foreign currencies from their Sovereign Wealth Fund - the 3rd biggest in the world with around 600 billion dollars in reserve - to compensate from gigantic losses of oil revenues, and to keep the economy afloat.
As a consequence analysts at the IMF and Barclays Research are anticipating an eleven fold increase in Saudi Arabia's debt, from 1,4% of the GDP in 2014 to 16,5% in 2016.

One could argue that a production cut from OPEC would solve the problem, but even though Saudi Arabia, Russia and Iran agreed to freeze the production the 17th of february 2016 after a year of oversupply, the markets are already flooded (30 million barrels/day) and drowning.

Interestingly enough this is precisely Saudi Arabia that started to flow the markets in the first place, back in 2014-2015, with a coalition of OPEC members, before it came back like a boomerang. They did it for at least two reasons:

Trying to kill the US shale boom, an opportunity for USA to be almost oil self-sufficient by 2020, meaning that USA would have bought less from Saudis and would have been able to export some of its oil.

Trying to destabilize the Russian economy (which heavily relies on gas and oil exports) because Russia is clearly on the side of Iran, Shia muslims, and the Syrian president Bashar Al-Assad that Sunni Saudi Arabia tried to oust, with the help of EU, USA and ISIS, for the past 3 years at least, with no success whatsoever.

So freezing a production, which has been at least 3 million barrels a day too high for the past year, will not be enough to make oil price rise substantially (above the average production cost of 90$ a barrel) specially when one consider that, at the same time, global demand for oil (and almost everything else) is falling sharply, because of an economic slowdown (and in some cases recession) simultaneously hitting Japan, China, USA and Europe...

The financial oil related turmoil is exacerbating tensions on the geopolitical level in the middle-east (war in Yemen, Iraq Libya and Syria) where a Sunni coalition (Turkey, Egypt, Qatar, Saudi Arabia) tries to counter rising influence of Shia muslims (Iran, Iraq, Syria, Yemen) backed by Russia, in an already very chaotic landscape where many local factions, tribes, armies, regular or not (Al Qaida, ISIS, Al Nusra Front, Free Syrian Army, Hezbollah, Alwia Al-Ashar, etc...) are fighting against, or with each other, and with, or against, outside forces (USA, France, Germany, Russia) ultimately over oil domination and power in this strategic region of the globe.

Because the war In Iraq and Syria is not a war to “bring democracy”, as explained by the USA and their allies, nor a war to create an (US sponsored) new caliphate in the region (Islamic State) for muslims to fight united against the infidels.
No. This war is a war for gas and oil, therefore money, and power. Period.

A war centered around 3 strategic pipelines:

The *Nabucco Pipeline* (Sunni) from Azerbaijan (via Armenia, Turkey, and Bulgaria) to Austria.
Mainly backed by Turkey, USA and the EU.

The *Islamic Pipeline* (Shia) from Iran (via Iraq, Syria and Lebanon) to Greece.
Mainly backed by Iran, Iraq, Syria and Russia.

The *Qatar-Turkey Pipeline* (Sunni) from Qatar (via Saudi Arabia) to Turkey.
Mainly backed by Qatar, Turkey, Saudi Arabia, USA.

All those wars, from the first Gulf war in 1993 to the war against Syria in 2013, have been fought for geostrategic purposes only, and the millions of dead, the dozen millions of wounded, traumatized, displaced, refugees, have been unfortunate *collateral damages* in this war for more oil, money and power concentrated in the hands of an elite of politicians, bankers and industry moguls.

The only difference, compared to the first Iraq war of 1993 waged by a US led coalition to defend Kuwait oil fields that Saddam Hussein menaced to cease, is that now, the main Shia power, Iran, is back with a vengeance. With international sanctions recently lifted in 2016 (and hundreds of billion of frozen assets unfrozen), the war for oil and domination in the region involve fierce competition between a Shia coalition (Iran + Hezbollah, Iraq, Syria, Yemen and Russia) and a Sunni/Wahhabi one (Saudi Arabia, Turkey, ISIS, Qatar, Egypt, USA, EU).

So now that economy is slowing rapidly worldwide, that oil prices are at their lowest in 7 years, and recession is looming, it is time for more war to secure that oil and, for some of the belligerent, to regain influence on the international scene in the long term, that will compensate the short-mid term losses in revenues.

Price could move back to 40 US$ a barrel in 2016, if production is kept at bay and slowed gradually, if raging chaos keep the pace in the middle-east, and if central banks of the world manage to pour more money into the markets, therefore artificially inflating any kind of assets, oil included, like it has done for the past 7 years.

If Iran uses, as a leverage, its ability to soon flow the market with up to a million barrel a day, and if global recession and China's economic slowdown are more severe than expected, price could go down as low as 15$ a barrel in 2016.

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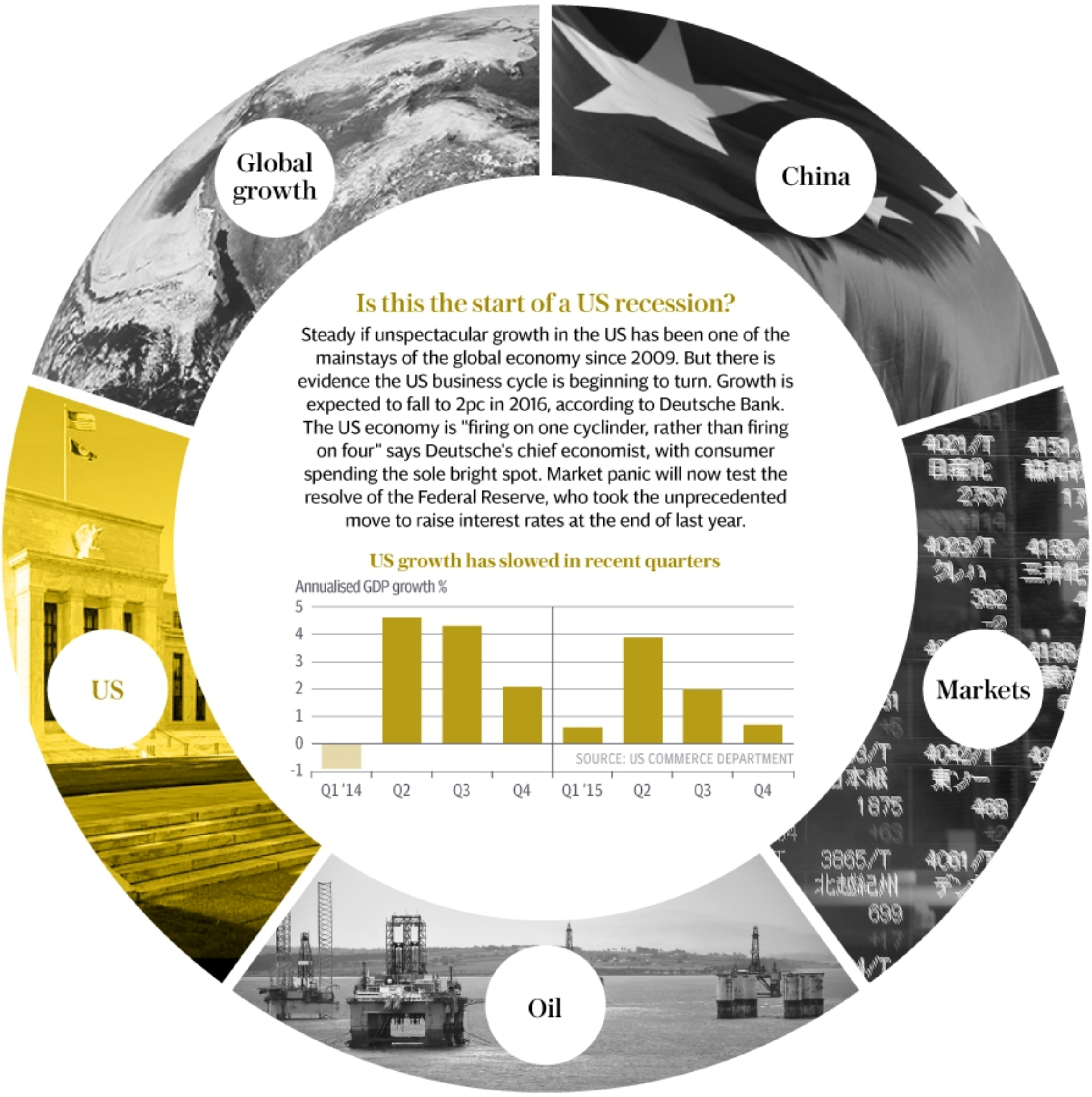
Global growth
China
US
Markets
Oil
Is this the start of a US recession?
Steady if unspectacular growth in the US has been one of the mainstays of the global economy since 2009. But there is evidence the US business cycle is beginning to turn. Growth is expected to fall to 2pc in 2016, according to Deutsche Bank. The US economy is "firing on one cyclinder, rather than firing on four" says Deutsche's chief economist, with consumer spending the sole bright spot. Market panic will now test the resolve of the Federal Reserve, who took the unprecedented move to raise interest rates at the end of last year.
US growth has slowed in recent quarters
Annualised GDP growth %
5
4
3
2
1
0
-1
Q1 '14
Q2
Q3
Q4
Q1 '15
Q2
Q3
Q4
SOURCE: US COMMERCE DEPARTMENT

II US

USA, the 1st *economy in the world*, is also the most indebted country with a debt that has more than double between 2008 and 2015 from 9 to 19 trillion US$, or 101% of its GDP.

We've been told quite often since the *Great Recession* of 2008 that the economy was recovering and that everything was going back to normal. What some called with a certain irony the *New Normal*.

So here are some facts that clearly show that the *new normal* is not normal by any means, when everything in *the land of the free and the home of the brave* is supposed to be all right, when in fact almost every indicators are even worse than before 2008 :

The inactivity rate of males aged 25-54 was at a record 12% in 2015. A 25% rise from 2008's 9%.

The US civilian labor force participation rate dropped from 66% in 2008 to 63% in 2015.

Homeownership in the US has dropped from 68% in 2008 to 64% in 2015.

In 2015, student loans has reached a new record of 1.2 trillion US$ (the second highest form of consumer debt behind mortgages) or 6% of US overall national debt.

Numbers of *US Welfare* recipients, *Food Stamps* participants and people collecting disabilities are at their highest level ever (around 45 million people, or 15% of US citizens).

US factory orders have fallen 14 months in a row.

The *Velocity of M2 Money Stock* is under 1929 levels, and has crashed 33% during the so called "recovery" from a 2,2 ratio in 2008 to a 1,5 ratio in 2015 (1,6 in 1929).

The *secular bull market,* which lasts 2300 days, from march 2008 to july 2015 (the 3rd longest bull market in history), is now officially over as we are entering a phase a economic contraction that is directly impacting the 10 largest economies in the world : USA, China, Japan, Germany, UK, France, Brazil, Italia, India and Russia and, of course, like the well known *Domino Effect*, all other countries on the planet, in this omniconnected world.

S&P 500 now at 1900 points could go as low as 1 000 by year end, although we will see a few *dead cat bounces* during the process, where institutional investors will do their best to *squeeze the shorts,* making stocks go up sharply, but briefly, before they continue to slide. Because *buying the dips* thinking that the markets will recover durably is, in our humble opinion, a huge mistake.

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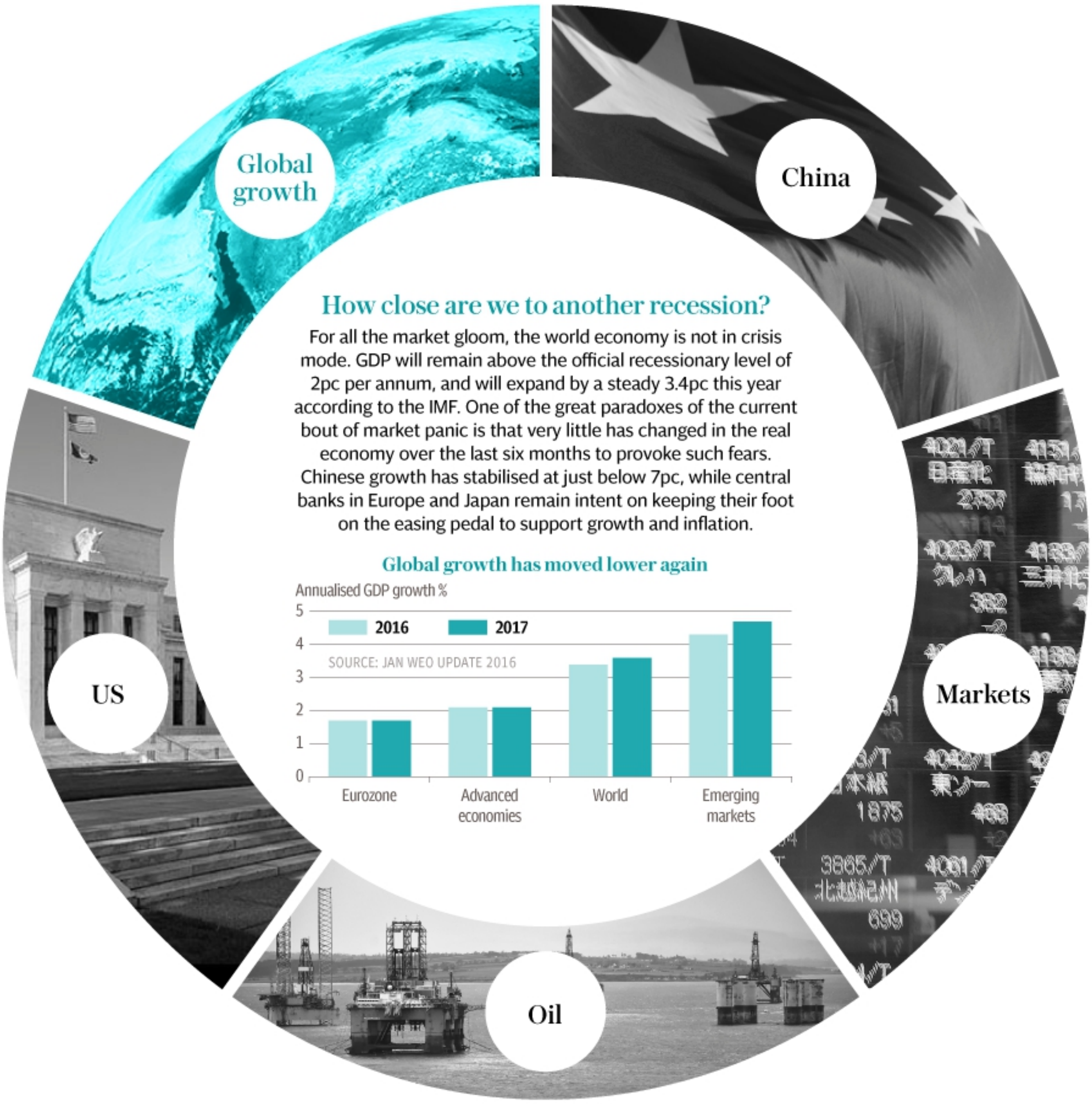
Global growth
China
How close are we to another recession?
For all the market gloom, the world economy is not in crisis mode. GDP will remain above the official recessionary level of 2pc per annum, and will expand by a steady 3.4pc this year according to the IMF. One of the great paradoxes of the current bout of market panic is that very little has changed in the real economy over the last six months to provoke such fears. Chinese growth has stabilised at just below 7pc, while central banks in Europe and Japan remain intent on keeping their foot on the easing pedal to support growth and inflation.
Global growth has moved lower again
Annualised GDP growth %
2016
2017
SOURCE: JAN WEO UPDATE 2016
5
4
3
2
1
0
Eurozone
Advanced economies
World
Emerging markets
US
Markets
Oil

III Global Growth

Since the 2008 *Great Recession*, central bankers of the world had *the markets* confused with *the economy*. First they used taxpayers money to *bail-out* the banks and insurance companies responsible for markets turmoil in the first place, then they embark in a frantic bond buying program and money printing that never really stopped. But this money ended up in the wrong hands, going to the markets instead of the real economy that badly needed it. So 8 years after the previous crisis, things are now even worse than they were before. And for those who doubt it could be worse, *bail-in* programms are on their way.

Here is the best of William White, former Chief Economist at *the Bank of International Settlement* (also known as *The Central Bank of central banks)* and now Chairman of the *OECD*, on its way to the 2016 Davos submit, in a recent interview with *The Telegraph* (19 jan. 2016) :

The situation is worse than it was in 2007. Our macroeconomic ammunition to fight downturns is essentially all used up.

Debts have continued to build up over the last eight years and they have reached such levels in every part of the world that they have become a potent cause for mischief.

It was always dangerous to rely on central banks to sort out a solvency problem. It is a recipe for disorder, and now we are hitting the limit.

QE and easy money policies by the US Federal Reserve and its peers have had the effect of bringing spending forward from the future in what is known as "inter-temporal smoothing". It becomes a toxic addiction over time and ultimately loses traction.

The Fed is now in a horrible quandary as it tries to extract itself from QE and right the ship again. It is a debt trap. Things are so bad that there is no right answer. If they raise rates it'll be nasty. If they don't raise rates, it just makes matters worse.

It is impossible to know what the trigger will be for the next crisis since the global system has lost its anchor and is inherently prone to breakdown.

And here are some abstracts from the *16th Geneva Report on World Economy* by the *International Center for Monetary and Banking Studies,* called *Deleveraging, what deleveraging* ? :

Japan stands as an outlier, with a total debt of 562% of GDP, and debt ex-financials at 411% of GDP.

The Eurozone, the UK and the US have broadly similar ratios of debt ex-financials, in the 250-280% range.

Growth in emerging countries is declining since 2008, specially in China. In China the ratio of total debt ex-financials to GDP has increased by a stellar 72 points, to a level that is far higher than in any other emerging economy.

In the meantime, global growth and inflation are lower than expected which constitute a dangerous problem.

We believe that potential production growth in developed countries in on a downward path since the 1980's and that the (2008) crisis has accelerated the permanent decline in both the level of production and its growth rate.

The world is buried in debt about which 99% is in electronic form and is traded everyday on the markets (stocks, bonds, derivative) making it even more leveraged and dangerous.

China's GDP growth has been cut by more than 50% since the crisis, from 14,7% in 2007 to 6,9% (officially) in 2015.

USA GDP growth is expected to be around 2,5% in 2016. Eurozone growth should be around a mere 1,5 to 2% in 2016. Japan is in a recession (again) so no growth expected.

As a result, in february 2016 OECD cut its worldwide growth forecast to 3% in 2016 and 3,3% in 2017.

And here is the introduction to the january 2016 World Bank report on *Global Economic Prospect* :

Global growth again fell short of expectations in 2015, slowing to 2.4 percent from 2.6 percent in 2014. The disappointing performance was mainly due to a continued deceleration of economic activity in emerging and developing economies amid weakening commodity prices, global trade, and capital flows. Going forward, global growth is projected to edge up, but at a slower pace than envisioned in the June 2015 forecast, reaching 2.9 percent in 2016 and 3.1 percent in 2017-18. The forecast is subject to substantial downside risks, including a sharper-than-expected slowdown in major emerging and developing economies or financial market turmoil arising from a sudden increase in borrowing costs that could combine with deteriorating fundamentals and lingering vulnerabilities in some countries.

As a conclusion we would like to draw attention to one of the most important economic indicator, the *Baltic Dry Index*.

In january 1985 the BDI was launched as the new benchmark for average raw materials shipment prices around the world. As such it is considered a major indicator of economic activity in the near future. Today at 316 points (-38% in 12 months) the BDI is at its lowest ever, and very, very far from 11 793 points, its highest of may 28th 2008. This in itself says it all, and should be quite alarming as it clearly points out to a very sharp economic slowdown in the making.

So we anticipate world growth to be more around 2% in 2016 and 2017, once it will have been revised downward from initial projections.

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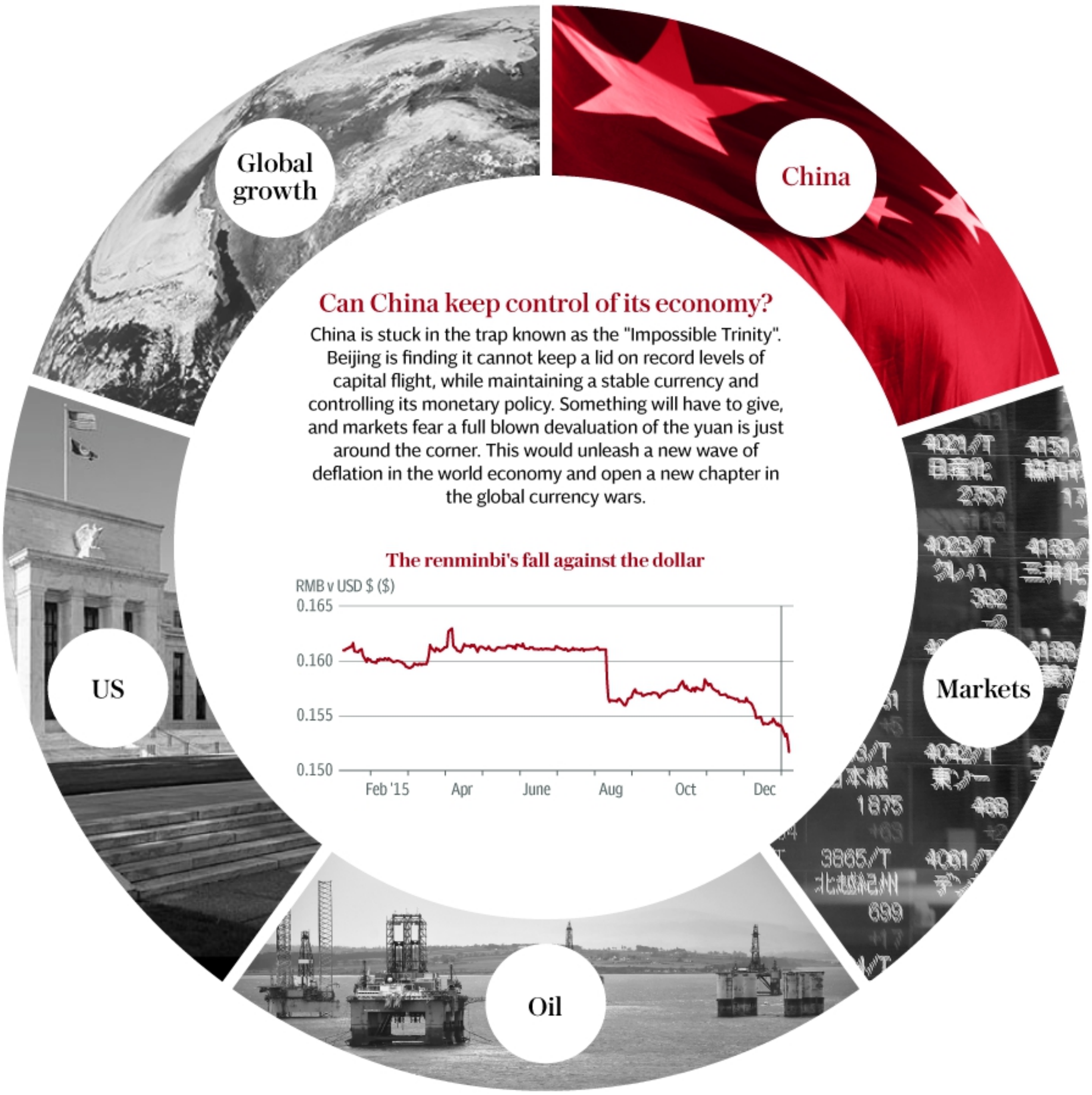
Global growth
China
US
Markets
Oil
Can China keep control of its economy?
China is stuck in the trap known as the "Impossible Trinity". Beijing is finding it cannot keep a lid on record levels of capital flight, while maintaining a stable currency and controlling its monetary policy. Something will have to give, and markets fear a full blown devaluation of the yuan is just around the corner. This would unleash a new wave of deflation in the world economy and open a new chapter in the global currency wars.
The renminbi's fall against the dollar
RMB v USD $ ($)
0.165
0.160
0.155
0.150
Feb '15
Apr
June
Aug
Oct
Dec

IV China

China, the 2nd economy in the world accounted for around a third of worldwide pre-2008 GDP growth.

Now China is having one of those *hard landing* moment, with an economy growing at 6,9% (officially) in 2015, down from 14,2% in 2007.

In 2015, total value of imports and exports in yuan terms decreased by 7 percent with exports dropping 1.8 percent and imports going down by 13.2 percent.

We write “officially” because that does not take into account the fact that, as Fitch Ratings agency noted in 2015 : *some 40% of credit exposure is carried off balance sheet in China’s banking sector. That totals some 35% of Chinese GDP or around $3,4 trillion.*

In the *Chinese shadow banking system*, a big chunk of Chinese economic transactions are not accounted for, because conducted *off the books*. This parallel system could bring down the bonds markets if a wave of defaults strikes due to economic slowdown.

Interestingly enough is the fact that a housing bubble is also awaiting to deflate in China with very painful consequences for households and thus for consumption and demand (and, one might add, for social stability, which is of uttermost importance in a 1,3 billion people country).

In the USA 72% of households assets are invested in financial assets.
In China roughly the same amount (75%) of households assets are invested in real estate.

15% of China's GDP is housing-related, and 2/3 of Chinese local governments revenues directly depends on lands development sales.

As a result, an estimated 65 million empty flats, often located in one of dozens of entirely empty towns (named *ghosts cities*), have been sold to Chinese households as great investment opportunities, although those empty flats do not grow in value, quite the contrary.

Meaning that when (not if) this bubble will deflate it will cause a painful chain reaction :

Starting with severe losses of household income,
Which will impact consumption in China (and imports from China),
Which will lead to a wave of defaults,
Which will hurt the banking system, thus China's economy and markets,
Which will badly hurt local governments revenues and entire sector like construction,
And will have ripple effects all over the “global village” we live in.

Therefore we believe China and worldwide growth will keep slowing in 2016-2017.

Here are excerpts from a recent report (*"2016 Year-Ahead: what may trigger financial instability"*) from Bank of America China's strategist David Cui :

It's widely accepted that the best leading indicator of financial instability is rapid debt to GDP growth over a period of several years as it's a strong sign of significant malinvestment.

China's private debt to GDP ratio rose by 75% between 2009 and 2014, by far the highest in the world.

Based on Bank of International Settlement's (BIS) private debt data we estimate that once a country grows its private debt to GDP ratio by over 40% within a period of four years, there is a 90% chance that it may run into financial system trouble.

We judge that China's debt situation has probably passed the point of no-return and it will be difficult to grow out of the problem, particularly if the growth continues to be driven by debt-fueled investment in a weak-demand environment.

Given the sizable and unstable shadow banking sector in China and the potential of capital flight, we also think the risk of a credit crunch developing in China is high.

A slow-down in economic growth is typically a prelude to financial sector instability. Putting it all together, it seems to us that many of these conflicts may come to a head in 2016.

We expect the key market theme in 2016 to be financial system instability as a few destabilizing forces seem to be coming to a head.

We forecast Shanghai stock exchange to decline by about 27% to around 2,600 by 2016 year end.

Our year-end target had not factored in a credit crunch scenario because the timing of which is difficult to predict. Should it occur, we expect the indices to end below the low bounds, possibly substantially so.

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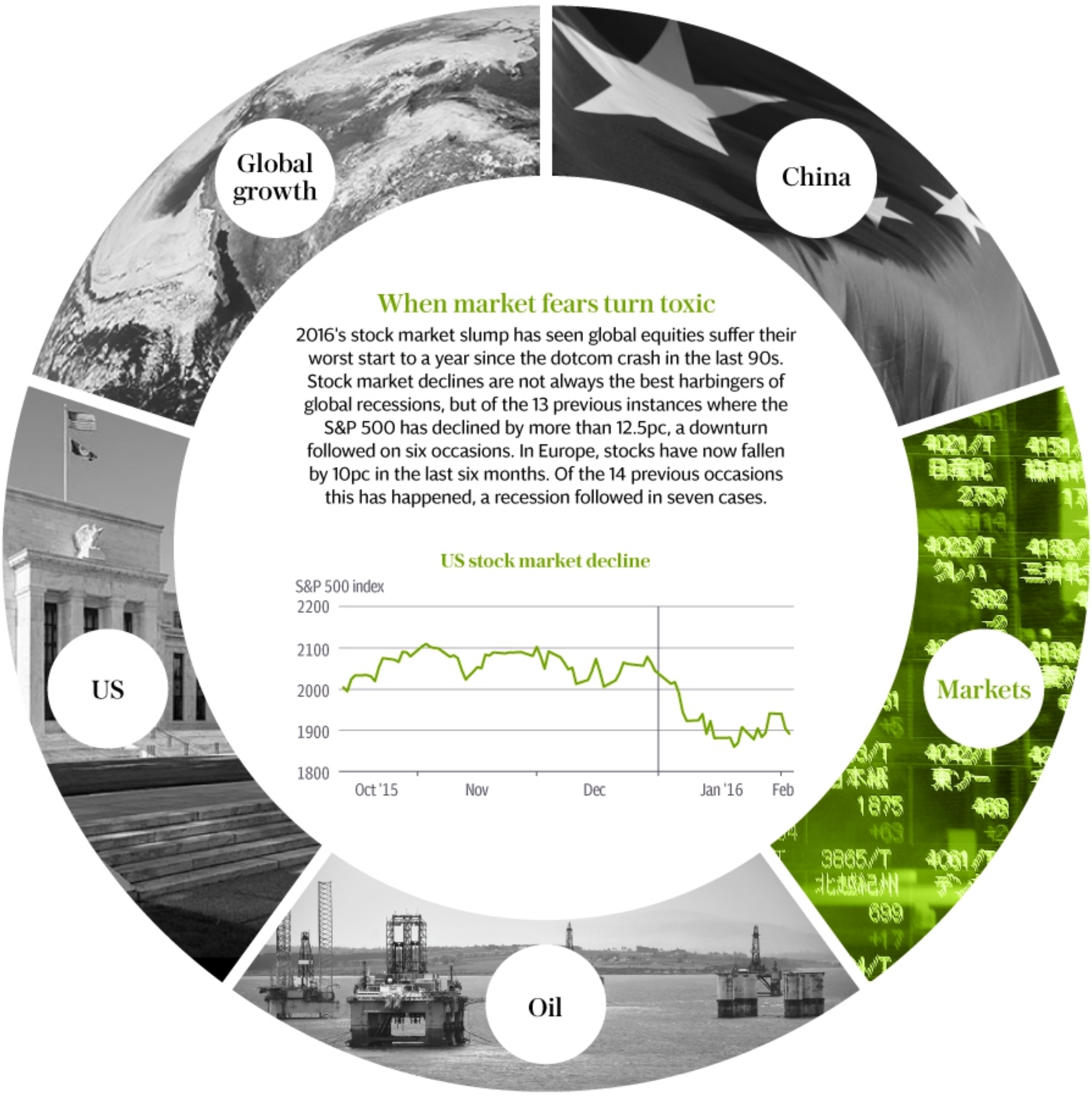
Global growth
China
US
Markets
Oil
When market fears turn toxic
2016's stock market slump has seen global equities suffer their worst start to a year since the dotcom crash in the last 90s. Stock market declines are not always the best harbingers of global recessions, but of the 13 previous instances where the S&P 500 has declined by more than 12.5pc, a downturn followed on six occasions. In Europe, stocks have now fallen by 10pc in the last six months. Of the 14 previous occasions this has happened, a recession followed in seven cases.
US stock market decline
S&P 500 index
2200
2100
2000
1900
1800
Oct '15
Nov
Dec
Jan '16
Feb

V Markets

To date 2016 have the worst year start ever in the history of stock markets.

Even with the temporary recovery that occurred since mid-february, major stock indices (DJIA, S&P, DAX, NIKKEI, FTSE, CAC, SHANG.CMP) are still in correction mode or even worse in *bear market* territory. And this trend will probably last for the next year and a half.
In other words things will keep deteriorating before they get better.

As the former Chairman of the Federal Reserve Alan Greenspan asked long ago during his famous speech at The American Enterprise Institute for Public Policy Research (5th of december 1996) : *How do we know when irrational exuberance has unduly escalated asset values, which then become subject to unexpected and prolonged contractions as they have in Japan over the past decade?*

The answer is probably when central banks themselves, as they have done for the past 8 years exhibiting constant *irrational exuberance* in the way they “intervene”, artificially inflates assets prices with counter productive money printing and all sort, and short term oriented bail-out or monetary interventions (TARP, QE1, QE2, TWIST, Q3, ZIRP, NIRP, and soon to come QE4) that greatly benefit and reward the “wolves of Wall Street”, but do very few to rebalance the real economy and help “Main Street”.

Central banks act as if financial markets and real economy are the same thing.
They are not.

In recent years markets slowly became a place where artificial growth is created by massive government sponsored liquidity injections, encouraging hardcore speculation and quite often, as it has been well documented, insiders markets rigging and manipulations by human beings, and by their *High Frequency Trading* algorithms counterparts.
Economy is the place where jobs, new products and services, innovations, added value, are created, by real investments, resulting in consumption and GDP growth.

The problem with central planers/bankers is that they have been engaged in a sort of pre-emptive war against financial risk, thus altering the natural order of the markets and the way they adjust to economic reality.

Here is the way analysts from Artemis Capital put it in their october 2015 report called *Volatility and the Allegory of the Prisoner's Dilemma:*

Although well intentioned, their (central banks) actions have created dangerous self-reflexivity in markets by artificially suppressing volatility and encouraging rampant moral hazard. Central banks have exchanged “known unknown” for “unknown unknown” creating dangerous feedback loops. A central bank reaction function is now fully embedded in risk premiums. Markets are pricing the supportive policy response before action is even taken.

The purpose of a pre-emptive strike on financial risk is to manipulate market psychology to affect fundamental reality.

The markets has ceased to become an expression of the economy... it is the economy.

Moral hazard is institutionalized in the price of risk. A new generation of traders has learned to buy every stock market dip, short every volatility spike, and re-leverage at the mere hint of government intervention. Yield starved investors are forced to chase the expectation of government response rather than fundamental returns and good business models.

In other words, central banks policies have impaired the overall efficiency of the economy.

Otherwise how could one explain the S&P 500 (and most stock markets) exuberant 200% increase between the 1st of february 2009 (735 points) and the 30th of april 2015 (2 107 points), while worldwide economy grew around 30% during the same period, or 10 times slower than the markets.

Well maybe the banking and financial systems are not only impaired, but also constantly rigged and manipulated. Of course it may seems quite a bold statement indeed, but as soon as the 19th of september 2014, we wrote an article (named *Pour Quelques Dollars de Plus*), showing how European banks and financial institutions (Deutsche Bank, Barclays, Credit Suisse, HSBC, Royal Bank of Scotland, Rabobank among others) have been fined for all sorts of markets manipulations (stocks, bonds, derivatives, precious metals, oil...).
Between 2013 and 2014 the total fines was an enormous 6.5 billions US$!
And since then, US banks has been fined for similar amounts for the same kind of manipulations...

Central banks interventions (in the form of a money printing frenzy) and free of all constraints banks / market makers leveraging even more than pre-2008 levels, severely destabilized the markets.

Just bear in mind that the US Federal Reserve alone has printed about 3.5 trillion US$ of money out of thin air between 2008 and 2014, putting the institution in a virtual state of bankruptcy.
The Federal Reserve total assets, as of 17th of february 2016, is 4.484 trillion US$.
But the disturbing fact is that it has a tiny 59 billion US$ in total capital for 4.429 trillion US$ in liabilities !

So the Fed has 81 times more liabilities than capital.

To put that in perspective it would be as if a household with 100 000 US$ in annual income could find a bank that would accept to lend them 8 100 000 US$!

This is absolute nonsense.

Now lets finish with a few figures :

The world GDP is 75 trillion US$.
The market capitalization of all of the world's stock markets is 70 trillion US$.
The total national sovereign debt is 60 trillion US$.
The total amount of global debt (included unfunded liabilities) is199 trillion US$.

The total value of global derivative markets is estimated between 630 trillion US$ and 1.2 quadrillion US$ (1 200 000 000 000 000) or 16 times the world GDP...

Those numbers seems unreal, although they are very real, and very frightening when one tries to imagine what will happen to the worldwide economy when markets (including derivatives) will crash and all this virtual value will disappear (because this money is no more than electronic... only 0 and 1 on computer screens).

So after a horrible start, we believe markets will continue to go down this year, probably starting, again, as soon as Q2 2016 and will keep doing so for the next 18 months.

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Conclusion

As we tried to emphasize throughout this report, the world is on the verge of a major financial crisis (at *GSR* we believe this crisis has already begun in august 2015).

Since the 2008 *Great Recession* nothing has changed. And, as we explained, it is even worse.

Financial markets, central banks and market makers are now completely decorelated from the real economy thanks to 8 years of unadapted monetary policies and interventions that created more debt, more instability and more risks, worldwide.

So we firmly believe that any prudent investor should take those facts into account to protect his/her savings, and even use this opportunity to benefit from the next selloff wave.

We also believe that nobody should be fooled by the fact that during that long and painful downward spiral markets will rebounce a few times, sharply, but momentarily, before going down, again, to new lows.

It is therefore the right time to adapt one's strategy to the new behavior or financial markets, to the *new normal* state of the economy, and to the new geopolitical environment, in an ever evolving omniconnected world, where old rules does not apply anymore, now that algorithms are part of it, as much as humans are. Markets although rigged, artificially inflated and manipulated, keep reacting, to a certain extent and with certain patterns, to economic, political, and geopolitical major events. And volatility, even if relatively kept at bay by central banks constant interventions will rise in a case of a major financial crisis.

If central banks can have a psychologic impact on *human traders* strategies, they have very few influence on HFT *electronic traders*. It is very important to understand that nowadays *High Frequency Trading* firms are responsible for around 80% of all transactions in the worldwide stock markets (see our 2014 paper *Intelligence Artifcielle* on the subject). In other terms, evolutive “predatory algorithms” (very smart pieces of software), capable of flooding the markets with million orders every second, are taking human traders jobs by the thousands and make more money in a day than the average human trader in a year. Markets psychology (and operators) have completely changed and it is of great importance to understand that.

The introduction of smart evolutive software in the middle of a human-based market is, in part, responsible for higher volatility and countless *flash crashes.* As a consequence of the rabbit-like rate of proliferation of those HTF firms, since the 2008 crisis, there have been more electronic *flash crashes* than human-made crashes in the entire history of the financial markets. And the more the markets deteriorate, the more volatility and the more crashes can be expected.

And of course, algorithms and proto A.I., are not just limited to financial markets.

More and more *pervasive computing* and software omnipresence in our personal and professional lives have tremendous influence on cycles, trends, events, and of course on decision making.

Smart and adaptive algorithms are running the online advertising business (displaying tailored adds on every page you visit depending on your surf habits), the supply chains of all big companies, the traffic lights in the cities, the subways, planes, trains, and boats traffic all across the globe, as well as communications, surveillance systems of all sorts, and the whole Internet itself.

Algorithms “wrote” around 3 billion news, finance, people and sport articles in 2014 and 2015 alone.

They are used in the entertainment industry to predict which songs and films have the most chances of success (therefore *predictive algorithms* are responsible for songs and box offices hits).

They are at the core of the special effects and computer graphic animation industry thanks to *fractal geometry* invented by Benoit Mandelbrot, a new field of mathematics first applied in finance in the 1980's.

In the military (a long time pioneer in A.I.) smart algorithms and proto A.I. are conducting huge and numerous virtual war games. They also manage complex real-time battlefield situation, taking decisions to fire a drone, to attack a rebel position, or invade a country, in lieu of human analysts, based on petaflops of data, impossible for a human being to process.

Supercomputers - or myriads of distributed computers (like the Seti@home initiative) - are helping scientists all around the globe to create many kind of useful simulations (weather, DNA, migrations, pandemics, brain, human behavior, signal treatment, universe expansion) and all kinds of *complex and chaotic systems* calculations, both at the macroscopic and microscopic levels, using *big data* that can't be analyzed by human brains anymore.

So in our view, it is a very big mistake not to take into account the role and influence of smart algorithms and proto A.I. in our society, and in the way human affairs are conducted on a daily basis, at the financial, geopolitical, sociological and technological levels.

If we add to the overall economic situation the deteriorating geopolitic and social environment, we now have a recipe for a “perfect storm”.

So here is a summary of what we expect to see in the next 18 month or so (alas not an exhaustive list):

Rising tensions between USA/NATO and Russia at level not seen since Cold War I, probably due to an incident in the middle-east between Russian (and their allies) and US military forces (and their allies), to military escalation in Ukraine or to USA/NATO moves in the baltic states (Latvia, Estonia, Lithuania). NATO led by USA and their EUCOM Commander in chief in the region, are regularly conducting “exercises” and adding troops, tanks and planes near the Russian border (see our *War Games* article on that matter) in what could only be called pure provocation.

We believe we are witnessing a slow but steady shift of power from West to East creating new tensions and "proxy wars" between USA / Japan / EU on the one side, and Russia / China / + other emerging countries, on the other.

We will see more and more bilateral trades/swaps worldwide bypassing the US$ (using gold, oil, or local currencies) causing the US$ to slowly but surely fall on the long term. See for example the 2014 and 2015 numerous trade agreements between Russia, China, India and Iran to swap oil for gold or to settle trades in local currencies (mainly Ruble and Renminbi).

The slow and painful crash of all *fiat currencies* (a.k.a. "paper money" : Dollar, Yuan, Euro, Pound, Yen, etc...) is starting to unfold with recent waves of currencies devaluation since august 2015 (Renmimbi and emerging currencies leading the way).

At *GSR*, we deeply believe that the end of the *Gold Standard* in 1971 (soon replaced by a petrodollar ersatz) was a game changer. Before Nixon's biggest mistake (aside from the Watergate) the dollar and thus all currencies were backed by gold (and supposedly redeemed into), limiting the amount of money issued, and therefore the amount of debt creation and all derivatives aberrations.

Since 1971 the dollar and thus all other currencies are backed by nothing at all, except the very volatile confidence that people and organizations that used them place in it.

And since 1971 the amount of debt (and all derivatives) issued has been literally exponential (and hugely leveraged) to a point where 99% of any form of "money" emitted and traded is virtual. Keep in mind that 0's and 1's on computer screens can vanish almost instantly if everybody is pressing the "sell" button at the same time. Think about it for a second.

As the french philosopher Voltaire stated some 250 years ago in his famous play *Candide:* "*A fiat currency based only on the confidence in the government that prints it always returns to its intrinsic value : zero*".

And he was spot on, as 100% of the currencies ever created throughout history have disappeared. All of them. Without exception. So dollars, euros, pounds, yens and renmimbis should soon follow.

Regarding the evolution of currencies, money and cash, 3 major trends seems to emerge almost simultaneously :

First a war on cash, in order to control the remaining 1% of non-virtual currencies. This has already started as illustrated by a few recent moves like the one of Mario Draghi, pushing to stop the printing of 500 € banknotes (with the fallacious argument that it will help fight organized crime. Seriously ?), with cash withdrawals and payment limited to 1000 € in France or, as former Chief Economist for the World Bank Larry Summers, pushing for *a global agreement to stop issuing notes worth more than say 50 US$ or 100 US$*.

Second the inception of the first world currency: the IMF's SDR (acronym for *Special Drawing Rights*). The International Monetary Fund is probably one of the last bank on Earth with a clean balance sheet (or to be more accurate not too much in debt, compared to the overall situation).

The IMF could start working full time in the next years, and flood the markets with billion (first, then trillion) of brand new SDR, paving the way to the first global currency. Which would certainly be a sucker punch for the US$ as the world premier reserve currency, because the *greenback* would then be no more than a part of a basket of other currencies (Dollar + Yen + Pound + Euro, and soon to come Renminbi).

Some argue that this basket of currencies could be pegged to gold (like in the good old days of the *Gold Standard*), but then it would probably mean a boom of atomic proportions in price of gold (up to 25 000 US$/ounce according to certain analysis) so we are not convinced we're heading to a *Gold Standard 2.0.*, at least on the short-mid terms. Nonetheless the SDR could well be in the next ten years the very first global (and only) currency.

Third a rise in crypto-currencies (Bitcoin and the like) value and usage. Because they are decentralized, not controlled by central banks, and issued in limited amount. In the meantime we anticipate the sharp rise of *the only real money* (it is important to stop mixing *money* and *currencies*) a.k.a gold (and silver) that have been used worldwide for the past 5 000 years or so.

Precious metals are a safe heaven, a great hedge against inflation, and a commodity that literally last for ever. And we are talking about *physical* gold, not *paper* gold and silver, as traded on the COMEX, which is leveraged an insane 300:1. Meaning that if investor sell their paper to be paid in physical gold, only 1 out of 300 will get some metal, if there is any left.

On a 100 years chart gold is up 150% against the dollar.
On a 100 years chart the dollar has lost 98% of its purchasing power.

As former Federal Reserve Chairman (1987-2006) Alan Greenspan himself said in a recent talk at the Council on Foreign Relations : G*old is the premier currency. No fiat, including the dollar, can match it*.

We believe that precious metals are at the end of a bear market cycle that started in september 2011. After recently breaking a critical resistance at 1180 US$/ounce gold is heading to 1294 and then 1397. If those levels are reached gold is up to 1 700 before year's end. If not expect a pull back to 900 US$ in the next few month and a sharp rise as soon as Q4 2016 to new historical highs (above 2000 US$/once).

A few words about silver: At *Grey Swan Research* we believe the opportunity is even greater than gold on the long run because of an abnormally high GSR (gold to silver ratio) of 80:1 which is near its historical high of 100:1. On a 100 year scale, the median GSR is around 50:1 with historical lows around 17:1.

So we anticipate a mid-term rise of silver spot (and premium) price faster than the one of gold.

On the geopolitical level, as we have said, and despite short lived cease fire, we believe chaos will spread in the middle-east and across Africa (mainly east and north) because of rising tensions and contagious "proxy wars" (like in Yemen) between Shia and Sunni muslims, competing at geostrategical, economical and religious levels for domination in the region. For those who doubt the religious part of that statement, the many travels of general Qassem Suleimani - commander of the IRCG *Quds Force* - during the past three years between Baghdad, Damascus, Teheran and Moscow should reassure them, knowing the past and the importance of this iconic general of the Iranian / Shia special forces.

As a result of rampant war in middle-east, we anticipate million more displaced people from that region flooding Europe in 2016 (among them thousands of terrorists posing as refugees) having a negative impact on the economic and social stability levels in an already economically endangered zone. In this matter, Turkey is using the refugee crisis as a powerful leverage. In Q4 2015 Turkey secured a first 3 billion € round of european subvention and asked to re-open EU adhesion negotiations. At the same time it has been well documented since the downing of the Russian SU-24 bomber in november 2015 by a Turkish jet that, as a Sunny country, Turkey is working with ISIS (and smuggling its oil), against the Kurds, with the Saudis, against the Russians and the Shia coalition in Iraq and Syria. AS a NATO member Turkey is clearly playing a dangerous *double-jeu.*

A new wave of terrorism against Europe, Russia, USA, before year's end will probably occur, with a potential escalation in *modus operandi* ("dirty bombs" or chemical weapons could be used against civilians, in crowded places in big cities).

Due to poor economic performances and deteriorating geopolitical, spiritual/religious and social environment, civil unrests and domestic terrorism in the "civilized world" will certainly rise. Domestic radical anti-capitalist movements should also multiply, some willing to use terrorism as a mean to convey their messages, in order to be relayed by the main stream media and create the *buzz* through social media, which they will use as a propaganda tools.

Surveillance state will continue intensifying with governments in western countries justifying their unethical actions by pretending "it's for the good of the people", or to "protect them". Drones, surveillance cameras, supercomputers, biometrics, public and private databases cross-checking, social media spying, will spread and will be used to monitor everyone on a daily basis, making George Orwell's *1984* looks like a walk in the park.

Power outages of all sorts will multiply due to rising interconnectedness, computer hacks, bugs, poor level of maintenance (or, on a completely different scale, to powerful solar flares that will affect all communication devices). TV networks, electrical grid, internet and mobile phones will definitely be more and more affected, in case of severe worldwide economic crisis.

And, surely we will witness a few real "black swan" type of events that will accelerate the processes described above.

At *GSR,* based on our *large spectrum analysis* method, we firmly believe that 2016 will be a game changer in many aspects.

All smart investors should then be ready to act accordingly (by rebalancing their assets allocation) because, once again, this unprecedented time of crisis, and therefore of wealth transfer, will be a unique financial opportunity for the few people that will be well prepared...
...And a nightmare of epic proportions for all others.

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We leave you with these lyrics - inspired from the 2nd law of thermodynamics - from english pop-rock band *Muse* that perfectly summarize our general sentiment :

All natural and technological processes
Proceed in such a way
That the availability of the remaining energy decreases
In all energy exchanges, if no energy
Enters or leaves an isolated system
The entropy of that system increases
Energy continuously flows from being concentrated
To becoming dispersed spread out, wasted and useless
New energy cannot be created
And high-grade energy is being destroyed
An economy based on endless growth is <u>unsustainable</u>

Muse
The Second Law : Unsustainable
From the Album *The Second Law*

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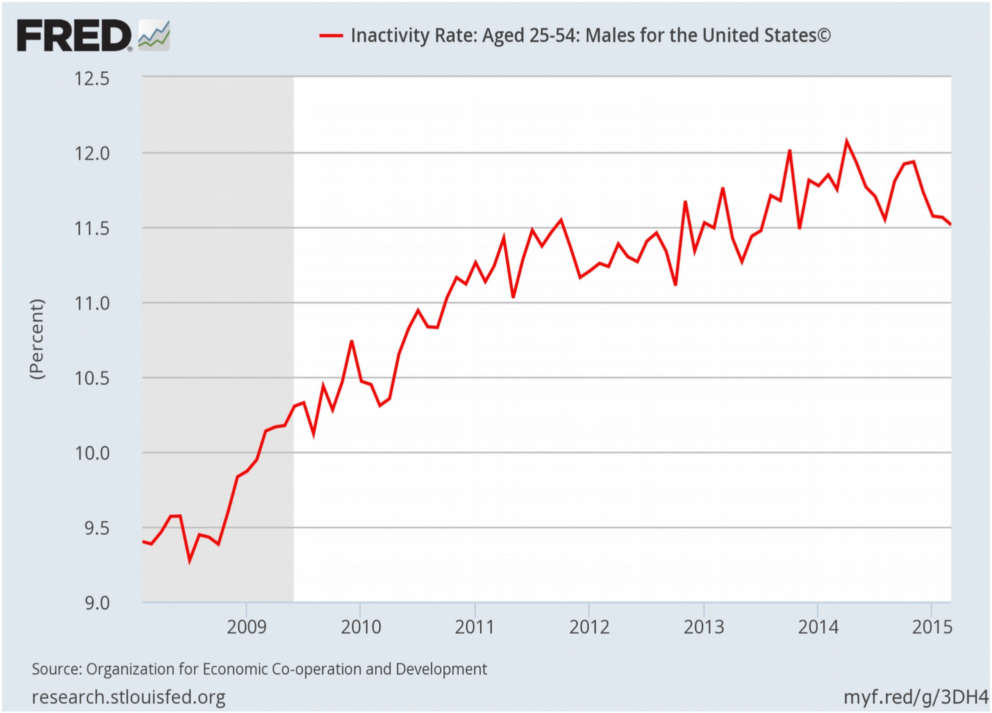
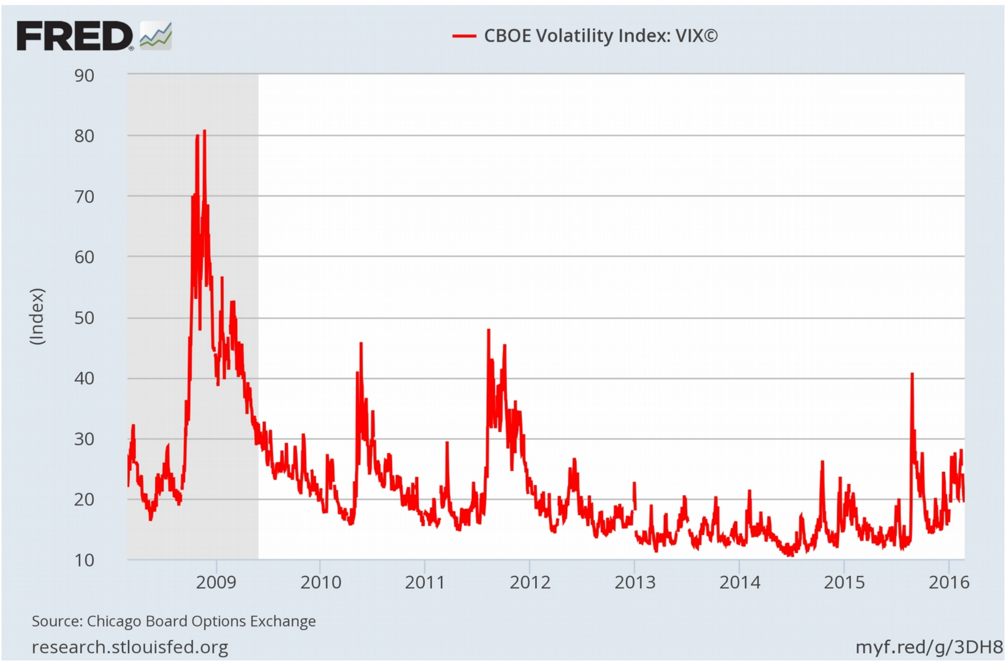
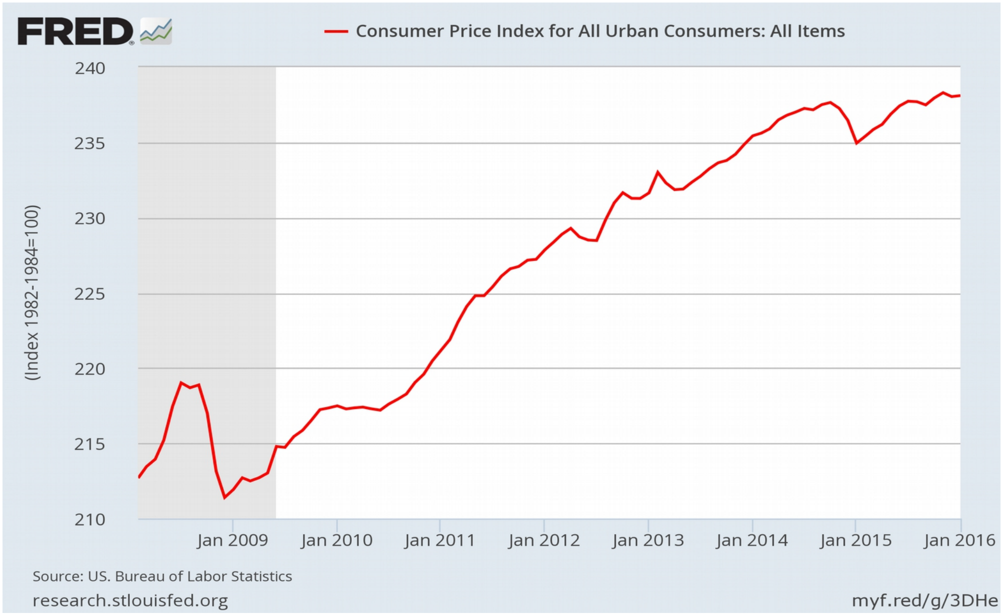
Charts



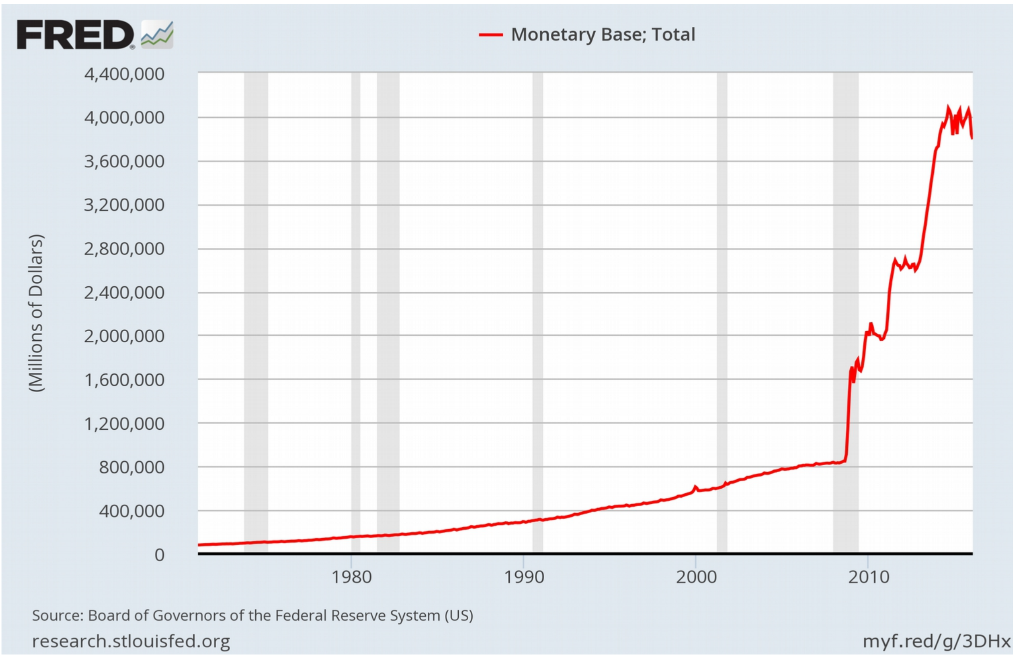
Inactivity Rate in the USA (males aged 25-54) - 2008-2016
Source : OECD / St Louis Federal Reserve - 2016



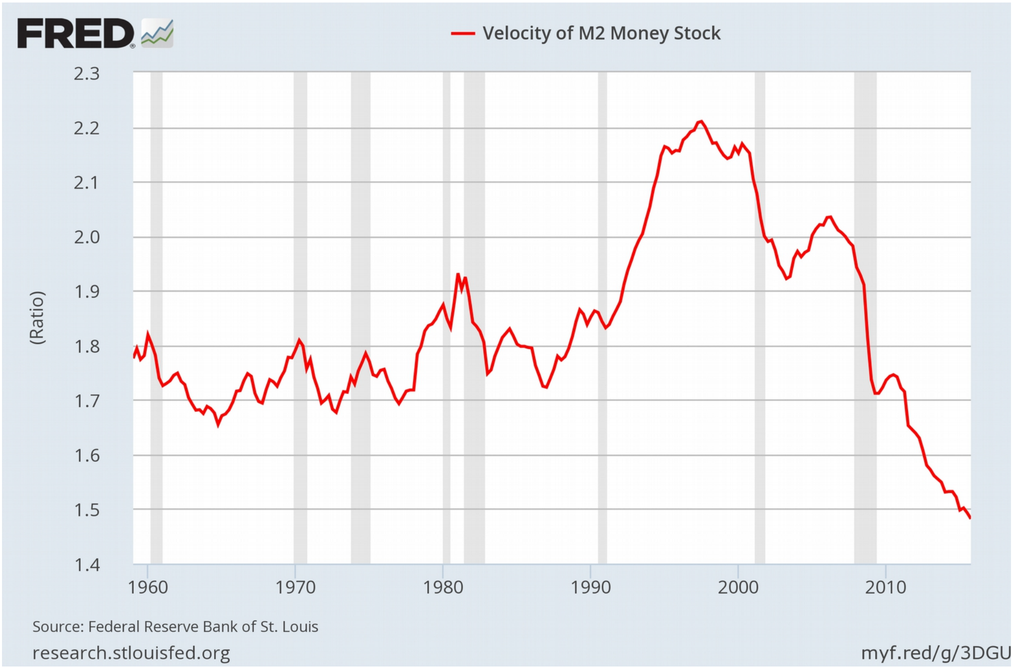
Volatility Index (VIX) 2008-2016
Source : Chicago Board Options Exchange / St Louis Federal Reserve - 2016



Consumer Price Index (CPI) 2008-2016
Sources: US Bureau of Labor Statistics / St Louis Federal Reserve – 2016

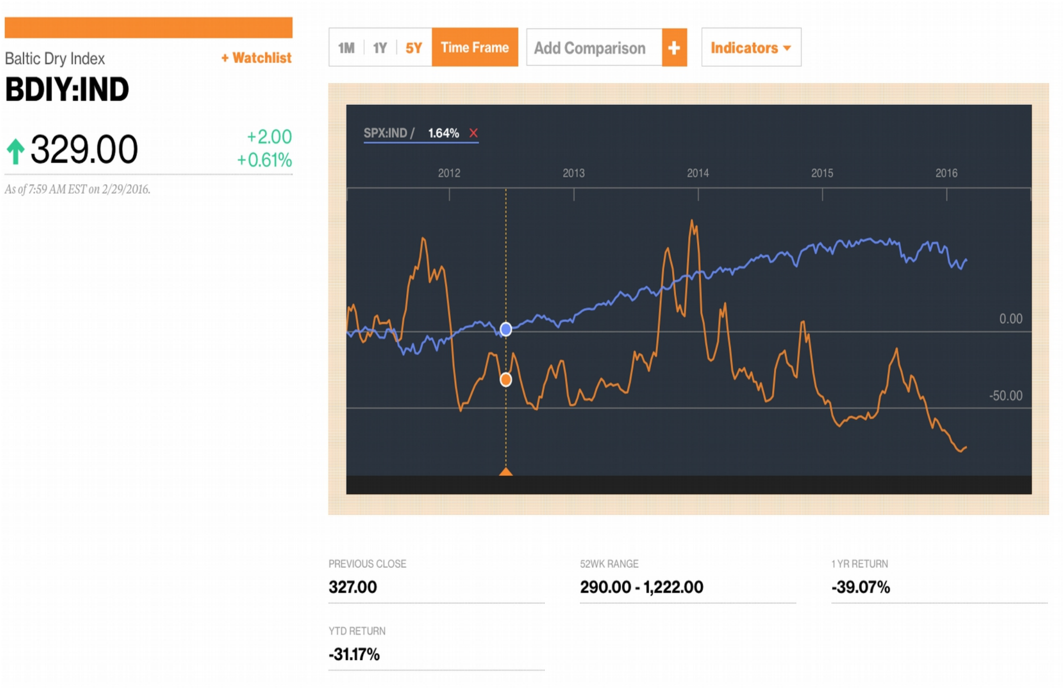


US Monetary Base 1971-2016
Sources : US Federal Reserve / St Louis Federal Reserve – 2016

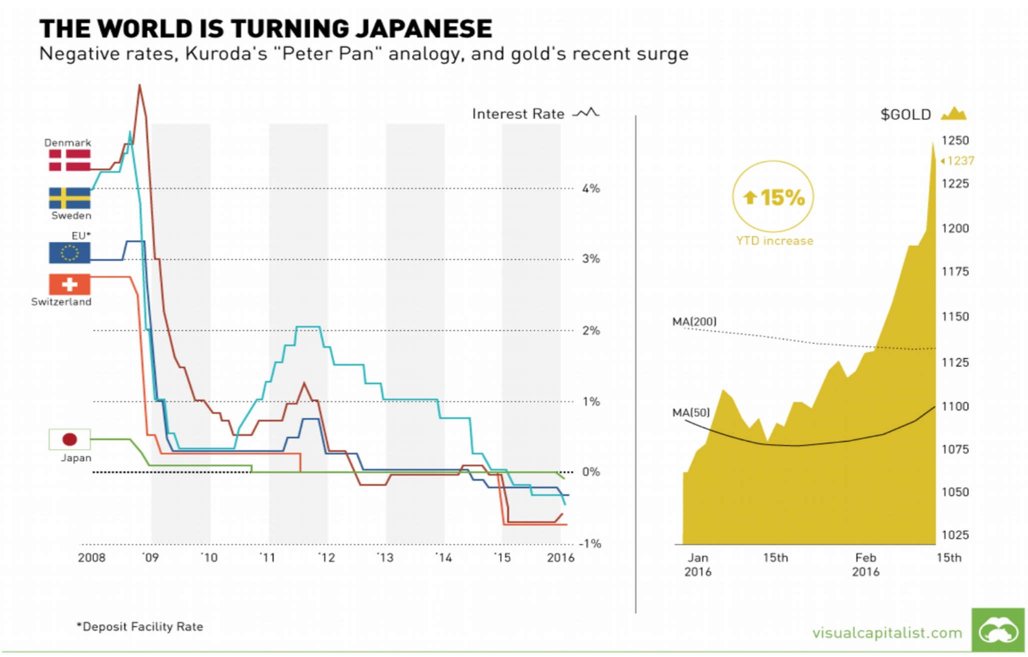


US Velocity of M2 Money Stock 1959-2016
Source: St Louis Federal Reserve – 2016

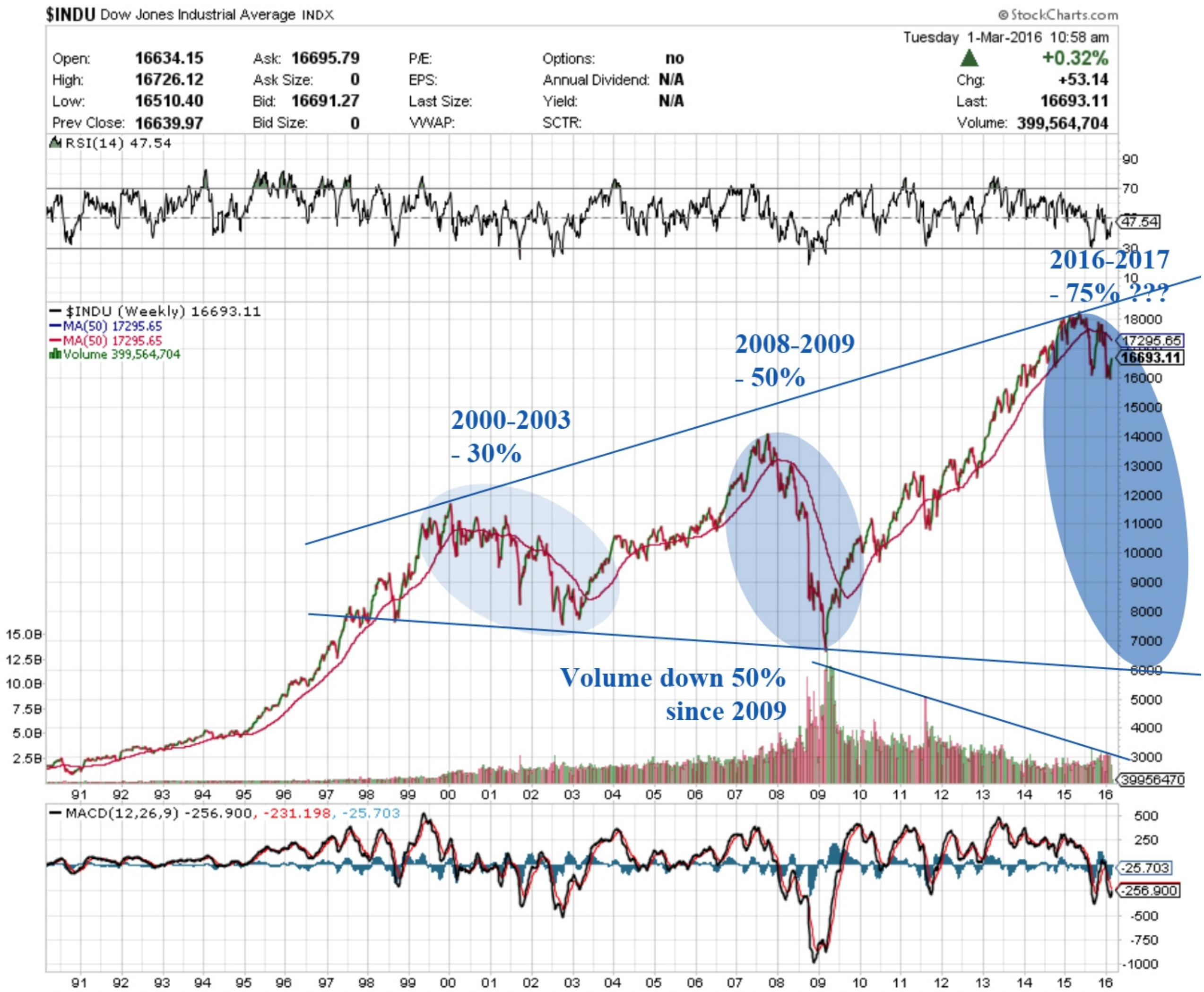
S&P 500 2008-2016
Sources : S&P Dow Jones Indices / St Louis Federal Reserve – 2016



Baltic Dry Index (BDI) VS S&P 500 2011-2016
Source : Bloomberg



NIRP (Negative Interest Rate Policy) Across the Globe VS Gold - 2016
Source : Visual Capitalists



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Sources : Stock Chart / Grey Swan Research – 2016

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In *Big Bang Blog*

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Contact

Alexis CHORON
Senior Analyst
Grey Swan Research

06 48 38 58 40
alexischoron@hotmail.com

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