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## **Better-Management Newsletter 11 January 2016**

**The nature of the collapse of complex societies / Resource depletion was a source of stress / The depletion of resources / Fossil fuels enabled development / The Chinese economy is already in trouble / Frau Merkel's problem / The interaction between energy and the global economy**

### **The nature of the collapse of complex societies**

The nature of the collapse of complex societies has been studied and reported on by folk like Joseph Tainter and Jared Diamond. It amounts to the build-up of complexity in successful societies that reaches a point where the overhead cost of complexity can no longer be borne by society's productive sector. There has been plenty of evidence for this from the ancient (since 10,000BC) to the modern. Dimitri Orlov's writings on the USSR collapse confirm two things. The first was that this also happened in the collapse of the USSR and second that the average citizen in Russia was able to cope with collapse because they had built up coping mechanisms. Collapse on the periphery of the USSR was far more dramatic (i.e. Cuba). Russia as a state is now well ahead of where it was when the USSR collapsed, even after the Ukraine related sanctions have been applied. Further, Russia is a major energy exporter for oil, gas, coal and uranium.

Collapse for the OECD will be nowhere near as benign as it was in Russia because we are ill-prepared...and it will likely be a global calamity.

Last year global collapse did not occur because the price of oil, gas and raw materials fell dramatically. This brought about a re-distribution of wealth between producer countries and the OECD with their complex, service industry overheads.

Most folk in our Western society do not produce material goods that are essential for society to survive and prosper. We are reliant on energy and materials supplied by others.

In the MENA countries a form of collapse is already under way with refugee streams and civil strife. These countries were all once resource rich and in the period between 1945 and 2000 they were able to subsidise a level of population growth as a result of income streams from oil and gas that no longer exist.

### **Resource depletion was a source of stress**

Resource depletion was a source of stress, but on its own the ability of folk to survive from subsistence farming could have carried everyone through – whether Soviet Union or Yemen. The problem was, the energy surplus from fossil fuels allowed them to be successful, so that when the energy surplus decreased and the price rose, the overhead cost of the complexity and burden of an unproductive population became too great.

If we throw the switch in 2016, so that if the oil price were to go from USD33 to 100/bbl then the energy costs will swamp society with a level of price inflation, that will trigger collapse (inflationary rather than deflationary).

The drop in demand from key buyer countries could easily continue to depress commodity prices, yet all finite resources cost far more (on a full cycle cost basis) than is reflected by price.

So the societal complexity condition is there (if only because humanity has been so successful as a species) and yet the energy industry cannot now afford to maintain production. So something has to give.

Many pundits rely on new technology to change our fate. But there are two problems with this. The first is that our built infrastructure has already consumed many of the resources that could be needed to implement change. The second is that despite what technology advocates say, the law of diminishing returns means that innovation changes little...unless one is talking about IT, smart phones etc. Most technological advances are directed at non-productive gizmos. Suitable electrical energy storage would be great to replace fossil fuels. But that is where progress is slowest. Technology has been largely influential in society's success but it won't likely get us out of the bind we are in.

A 55% probability for collapse in 2016 seems high. Yet it allows for the possibility of other outcomes. You will see from the collation of information below, that the forces promoting collapse are only gaining in strength. Our leaders are blissfully unaware of what is happening and that is why I consider collapse by 2020 to be almost certain.

### **The depletion of resources**

We seem to ignore reality with impunity. But that will end – probably this year. Gail Tverberg and Ron Patterson have written articles that I have included in this email. Both highlight the fact that humanity's free reign over the finite Earth is coming to a close, because the cost of maintaining our lifestyle is rapidly increasing.

Voters don't talk about things that don't affect them, so neither do politicians. Scientists are not paid to talk about the "bleeding obvious" so they stick with stuff like individual wild species extinction and anthropogenic influences on climate change. With thanks to Peter, this Professor Bob Carter interview shows how easy it has been for them to take their eyes off the ball. There certainly must be some contribution from humans to global warming, but natural causes trump what we are doing...

<http://video.thenewamerican.com/sci-tech/video/alex-newman-robert-carter-cop21>

2015 saw the continued depletion of wild fish stocks and huge forest burn offs in Indonesia and Brazil among other places. The Indonesian fires even made the Paris COP21 Climate talks into a joke, where the blind discussed with the deaf, how to destroy humanity by silly restrictions that can never be implemented. One year's fires render useless all global human effort to cut down on CO2 emissions. We increase the size of fish farms while the wild fish catch starts to plummet. Naturally we must prepare for the coming time when fossil fuels become totally uneconomic to produce...but that is a different, if urgent, argument.

The fact is that fossil fuels were laid down between 200 and 500 million years ago and are finite. Water aquifers were laid down in some cases a few million years ago and many are being depleted in a few modern generations. A 2015 study showed that on global average, only 6% of aquifer water use from extraction can be replenished every 50 years. Thus we have placed some of our own species on the path to extinction. We simply cannot afford exponential growth in the human population to continue. Can we face up and address that? No.

### **Fossil fuels enabled development**

We know that fossil fuels allowed us to develop technology and machines that enabled 95% of us to do other things than produce food, once we figured out how to use coal and split oil into its utilitarian fractions. To repeat myself....many of our human occupations are useless from a utilitarian point of view, adding nothing of value to society. Before fossil fuels came along, 95% of us were dedicated to producing food. Prior to 1850 we subsisted and after 2050 it is likely that we will return to that as the dominant form of national and local economy. We will likely be the victims of our own success.

I suppose our presumption of divine creation helps us to ignore what will happen to our species. Exhausting resources can only happen to locusts and wild beasts, can't it? Well, we are doing a pretty good job on our own.

Lake Mead is dying. What will then happen to Las Vegas? Then there is the depletion of the Californian and Ogallala aquifers that will cut down on US farm production...and that has already started to happen.

The fossil aquifer in Saudi Arabia has substantially disappeared this year...so from five years ago when the Saudis produced 100% of their own wheat consumption, this year 100% will be imported. Yet NZ sponsors the building and operation of dairy farms in Saudi Arabia...using lots of energy and lots of de-salinated sea water.

There is something abjectly stupid about what we humans are doing – as Ron Patterson points out...

<http://peakoilbarrel.com/confessions-of-a-doomer/>

Every new mine is dug deeper and has a lower assay than the current global average. Most new oil wells have a lower EROEI than the current average – so the net energy available to fund our complex society is being reduced – year after year. Techniques for resource extraction such as In situ acid leaching or even oil/gas well fracking can have unintended consequences. Fracking is now KNOWN to cause earthquakes and water pollution...

<http://www.businessinsider.com/epa-report-that-said-fracking-was-safe-is-disputed-by-its-own-scientists-2016-1>

The fact is that the oil and gas industry never discussed the fact that well casings don't last forever – so after the integrity of casings is lost, then the toxic chemicals can enter the water table....and yet in many places we humans expect our water supply to last for hundreds of years – not just the life of current oil/gas well casings.

Every human attempt to change the engineering of other species has run the risk that we may be destroying ourselves, by doing so. This relates to genetically modifying other organisms (such as GM crops) to increase their utility. We have little idea of the negative human mutations that can take generations to emerge. Modify the lower order species and we risk mutations to the top order species...humans.

It is a fact that we can engineer more fresh water and we can engineer more fossil fuels. But when we cannot afford to do so, our economy will crash...this year, or next year, or soon.

### **The Chinese economy is already in trouble**

Have you wondered why the Chinese are doing so much to piss off their near neighbours by building forts in their seas, or why they are creating their own financial institutions to challenge the US sponsored World Bank, IMF, NATO and other lesser alliances? China's future is not dissimilar to our own as they depend on energy and raw materials from other countries. If China has a crash, all suppliers now will have a more difficult time.

China is allied to Russia and is concentrating on developing ties with "silk road" countries and is quite aggressive in gathering resources and mineral rights.

The Chinese economy is already in trouble. They talk of 7% growth and yet in 2015, rail freight dropped by 10.1% and there was no real growth in electricity consumption. So what gives?...

[http://seekingalpha.com/article/3800086-the-fantasy-and-the-reality-of-chinas-economic-rebalancing?source=email\\_macro\\_view\\_edi\\_pic\\_3\\_5&ifp=0](http://seekingalpha.com/article/3800086-the-fantasy-and-the-reality-of-chinas-economic-rebalancing?source=email_macro_view_edi_pic_3_5&ifp=0)

China is going to have a credit bust at some point...

<http://video.cnbc.com/gallery/?video=3000476898&play=1>

and

[http://seekingalpha.com/article/3800176-downward-spiral?source=email\\_macro\\_view\\_for\\_0\\_14&ifp=0](http://seekingalpha.com/article/3800176-downward-spiral?source=email_macro_view_for_0_14&ifp=0)

The Chinese understand the reality of finite resources. They understand the reality of pollution and they understand that the global financial system will one day collapse – which is why they continue to increase their own gold holding by the full extent of their approx. 400 tons annual domestic production and import half of the production from the rest of the world...

[http://seekingalpha.com/article/3798696-chinese-central-bank-buys-another-19-tonnes-of-gold-in-december?source=email\\_macro\\_view\\_gol\\_pre\\_met\\_0\\_13&ifp=0](http://seekingalpha.com/article/3798696-chinese-central-bank-buys-another-19-tonnes-of-gold-in-december?source=email_macro_view_gol_pre_met_0_13&ifp=0)

And the Chinese are now buying a major London gold repository with 1,500 tons in it? Is this not transparent enough for the CIA to understand that US dollar hegemony is under attack? Even the Saudis realise that flooding the world with cash and credit means that something has to give...

<http://www.telegraph.co.uk/finance/economics/12089324/Saudi-Arabia-China-riyal-dollar-currency-wars.html>

The Chinese also continue to import oil while prices are low in order to bolster their own strategic petroleum reserve. They will add another approx. 200 million barrels in the next 18 months. Turning East China Sea and South China Sea into their own lake is rational given their impression of the impending collapse of the Western financial system and the reality that energy will be in short supply...sooner, rather than later.

The spat between Sunni and Shia in the Middle East will also affect energy flows...sooner or later.

The partnership between Russia and China will lead to that group having the best energy supply and decisions they take will be focusing on locking in strategic resources.

In Europe, Merkel's cavalier invitation to refugees to provide Germany with an expanded labour pool has back-fired badly. Not only are the various nation state's border controls being reinforced, but Germany stands alone after the Cologne New Year fiasco. Most other EU states now accept the reality of Slovakia's position...

<http://www.zerohedge.com/news/2016-01-07/slovak-pm-closes-door-refugees-we-dont-want-what-happened-germany-happen-here>

### **Frau Merkel's problem**

Frau Merkel's problem may be that it has taken 10 days to recognise that the attacks were a refugee related problem – on a sizeable scale...

<http://www.bbc.com/news/world-europe-35277249>

It is a geopolitical nail in the EU's coffin at the time when a UK vote on Brexit draws closer. The forces for tolerance and political correctness are in disarray. They will likely never be the same again, as extremist parties start to dominate within the EU.

From the 2:1 ratio of folk who believe that there will be a recession in 2016, I realise that the global financial system is likely now in trouble. Even usually bullish sources have changed their positions...

[http://seekingalpha.com/article/3800046-a-crash-could-be-just-around-the-corner?source=email\\_macro\\_view\\_mar\\_out\\_4\\_11&ifp=0](http://seekingalpha.com/article/3800046-a-crash-could-be-just-around-the-corner?source=email_macro_view_mar_out_4_11&ifp=0)

and

[http://seekingalpha.com/article/3800246-current-period-creating-many-analogies-with-the-period-running-up-to-the-2008-crisis?source=email\\_macro\\_view\\_mar\\_out\\_2\\_3&ifp=0](http://seekingalpha.com/article/3800246-current-period-creating-many-analogies-with-the-period-running-up-to-the-2008-crisis?source=email_macro_view_mar_out_2_3&ifp=0)

China's slowdown and their own debt problems must soon influence their impact on the global economy...

[http://seekingalpha.com/article/3798416-here-are-6-reasons-china-matters?source=email\\_macro\\_view\\_edipic\\_1\\_3&ifp=0](http://seekingalpha.com/article/3798416-here-are-6-reasons-china-matters?source=email_macro_view_edipic_1_3&ifp=0)

Just look at the Reduction in Chinese forex reserves...

<http://peakoil.com/publicpolicy/depletion-of-chinas-reserves-creating-concern-and-a-potential-derivative-nightmare-in-oil>

Many folk are unaware that the CCP has stepped in via PBoC, to constrict and if possible stop the currency drain that allowed Mainland Chinese people to emigrate and pay huge house prices, everywhere from London, to Sydney, and from LA and Vancouver to Auckland. Countries that have relied on immigration from China to bolster their economies and asset values will not be able to do so in 2016 – at least to the same extent.

China's overseas purchases are being reduced as their needs change and as their own finances get stretched. The engine of world growth has now arguably started to idle – if not stall.

Australia and New Zealand rely on the sale of commodities to China. Low prices plus a Yuan devaluation could heavily impact our economies – within the next couple of months. And we must realise that our “big 4” trading banks depend totally on maintenance of residential property prices.

[http://seekingalpha.com/article/3799736-jim-rickards-on-china-they-dont-know-anything-about-capital-markets?source=email\\_macro\\_view\\_mar\\_out\\_5\\_12&ifp=0](http://seekingalpha.com/article/3799736-jim-rickards-on-china-they-dont-know-anything-about-capital-markets?source=email_macro_view_mar_out_5_12&ifp=0)

Currency wars will likely intensify further and these are a “beggar thy neighbour” influence on international trade.

If Australasian property prices slide lower, the banks will be hit.

### **The interaction between energy and the global economy**

Oil is **currently** an irreplaceable source of the energy that powers our society and transport. If we tamper with oil economics or price we severely affect the economy.

Oil use is so universal that the countries with resources had out-performed those without; that is right up to 2014. Thereafter what should have happened with recent low prices, is that the OECD countries should have prospered...but they didn't. The countries who have suffered from recent low prices have really suffered!...

<http://peakoil.com/publicpolicy/who-wins-and-who-loses-in-a-world-of-cheap-oil>

A must-read from Gail Tverberg: The current oil price does not support exploration and development expenditure because 80% of possible investments will be uneconomic.

<http://www.oilvoice.com/n/2016-Oil-Limits-and-the-End-of-the-Debt-Supercycle/91354a80381a.aspx>

Gail's comments include reference to the impact of huge volumes of oil and the fact that even a small daily surplus of say 1 million bbls per day can max out the storage. If that occurs then

the price could drop to even \$10/bbl or less and cause financial meltdown. In her last graph she suggests that even a drop in production of 35% between now and 2020 on a gross basis is possible. But frankly, I see that as unlikely in any scenario other than total meltdown of the global economy and financial system. Yet it could occur – conceivably at least.

Among some interesting predictions, this article shows how energy deflation is likely to cause mayhem in 2016...

<http://www.economic-undertow.com/2016/01/04/a-look-to-2016/>

For reasons that Gail points out in her extensive article, the disaster will occur when the cost of oil rises faster than the income of the average person. This did occur in 2004-12 but led to lower demand and thereafter lower oil prices driving global price deflation for all goods and services. Now the entire energy industry is in failure mode with no-one able to control what is occurring due to the different international interests of the parties.

Too much energy, not enough price? Perhaps a war between a couple of the major players is what has been decided on? Iran v. Saudi Arabia?

Times are interesting, but the status quo is the only thing that seems no longer possible.