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Dynamic equilibrium - Population growth/drop? A new paradigm? "Shale is not even remotely economically viable" - Extreme fluctuations stimulate extreme over-corrections

Dynamic equilibrium

When we look in the internet there are many explanations for the term “homeostasis”. But the one I remember from my uni days is “dynamic equilibrium”. A stable state despite environmental pressures.

In recent emails I have decried the state of exponential growth in population and resource utilisation by comparison to fixed global resources. With the downturn in global demand for many resources over the last six months (reflected in lower commodity prices) we can only speculate whether this is part of an impending GD1 (the world’s first fully globalised depression) or whether it is just a temporary pause. But effectively, what cannot happen usually will not, so at some point our resource utilisation patterns must change. Will we ever arrive at homeostasis, and if we do, will that be caused by market forces?

Every time I point out that global population is increasing at 83 million (net) per year, year in, year out, some people remind me that birth rates are dropping. We instinctively know that there is likely to be a limit of how many people and at what standard of living the world can tolerate and support ongoing human population. Yet that will be a variable thing. But will it change because our reproductive behaviour changes?

Within the OECD the proportion of people employed in the provision of food has gone from 96% in the year 1500 to around 5% today and in part this is driven by the availability of alternative sources of energy to manual labour and in part due to the advent of machines industrialised cities – soon robots. So while once we rationally had lots of kids – even employing slaves - to operate “the farm” the need for both sources of manual labour has disappeared.

Population growth/drop?

Occasionally the scientific community (for example Erhlich and Simon in their famous wager) debates the level of population that the world can support. But that figure will depend on a multitude of factors, not the least of which will be the availability of food, potable water and natural resources. Then there will be the technological developments designed to improve lifestyles as well as compensate for the increasing cost of some of the resources we have plundered to date.

For population growth/drop? Looking at what happens in one country does not help us. This year for example, while New Zealand may barely replace our existing cohorts via natural live births, we will increase our net population by more than 1% due to immigration trends and the rules governing that process that lead us to actively import people. Russia on the other hand is

cynically but quite rationally bashing gays and providing incentives to breed because the net trend is towards a rapid population decline. For a country such as Japan, population decline will have a major impact on the economy.

A new paradigm?

Stratfor make a number of points on this, in their latest missive...*(Editor's note: Read this thought-provoking Stratfor article twice - it present a new potential paradigm....)*

https://www.stratfor.com/weekly/population-decline-and-great-economic-reversal?mc_cid=a0f058f040&mc_eid=f6520e17b6

Humans can do lots of things with money. In fact money can change reality and no more so than in the oil industry. In the news today from Bloomberg is speculation from “the usual sources” who talk up the plentiful supply of crude... that oil could drop in price to USD20 per barrel. Unfortunately, that would be a lower price than the variable cost of getting 50% of the world’s oil out of the ground and removing impurities (i.e water cut, or for tar sands, the asphaltenes). So homeostasis (if we go on the evidence of cost and difficulty of finding new oil deposits) can only be found somewhere within the realms of USD70 – \$120/bbl oil.

Remember the term “only in America”? Well in America we are used to seeing reality suspended to suit advertising hype. Nowhere is this more so than in the much hyped chase for light tight oil (aka shales). This article from Hills Group (oil industry consultants) provides the proof...if any were needed...

"Shale is not even remotely economically viable"

“According to EIA, and Goldman released data, between 2008, and 2013 the shale industry produce 3.21 Gboe while accumulating \$960 billion in debt. That is a debt formation of \$299/boe produced, or more than 3 times what the producers received for their production. Obviously, shale is not even remotely economically viable, and yet in every article there is a reference to the incredible production gains it has experienced. To believe that this can continue one would literally have to be an idiot, and yet the industry continues its mantra!”

Naturally, some companies which have been faced by 60% YOY reductions in output from their fracked wells are starting to resort to re-entry and re-fracking of old wells. But it is too early to say whether that will be viable or not. Even so, they all must keep production up in order to pay their interest bills. Today it is clear that in the US shales “the devil will take the hindmost”.

Extreme fluctuations stimulate extreme over-corrections

Extreme moves in demand, supply and price are usually grounded to some degree in perceived trends and eventually there is some sort of reversion to the mean where over-corrections have occurred. But extreme fluctuations also stimulate similarly extreme over-corrections. As this shows...

http://seekingalpha.com/article/2920146-oil-price-crash-update?source=email_macro_view_com_8_26&ifp=0

So it was with supply, demand and prices, when the “civilised world” over-fished the whales – almost to total extinction. Then we got by, by using paraffin from coal at first and then oil and electricity came along, proving substitution is often possible.

And so we meander along. Arguably, where resources are either scarce or finite, homeostasis may not be possible. And that may ultimately prove to be Gaia’s revenge upon us.