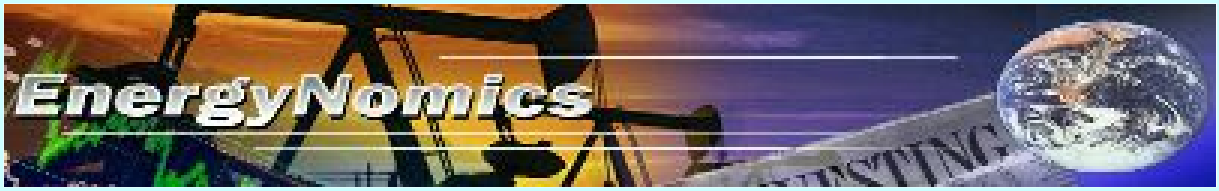


VOLATILITY IN THE OIL PRICES: THE REASONS

*Energy is the Lien of Money. The production of wealth of all nations depends much on the affordable supply of energy, thereby all elements that constitute prosperity including production, consumption, transport and money ride on the back of energy"…:*Charles Hall & Carlos A. Rossi

The principal factors that have mostly influenced the recent collapse in oil prices are:

SUPPLY:

1) United States. USA produced 9.2mmbd in December 2014, an average of 8.6mmbd for the year, representing >16% increase over 2013 and 4mm since 2009. This immense increase in production has been accompanied by a reduction in its consumption of crude oil of -5.7% in the 2003-2013 decade due principally to high oil prices, a reduction in economic growth, an increase in the mix of non-crude oil products (3.1mmbd) and an increase in end-use efficiency. In 2003 the United States imported 12,7mbd or 63.2% of its total consumption. In 2014 the United States imported 9,8mmbd or 51% of its total consumption of just over 19mmbd. This import reduction and the decline of imports in its consumption has contributed decisively to a reduction in the oil prices at World level even though there still exists in the USA export prohibition laws in most oil products. The reason has been mostly due to technological breakthroughs in drilling activity in US shales mostly in Eagle Ford (Texas) and Bakken (North Dakota) from two different angles, Hydraulic Fracking and horizontal drilling that allows controlled explosions underneath fracture the well base and extract the oil. Other reasons include sharper refinery gains. Notwithstanding lower oil prices EIA is predicting production growth of 6.9% in 2015. What we at EnergyNomics are not predicting are massive bankruptcies; the USA government is way too smart and committed to let this happen to their priced energy industry (see below for a graphic representation of how this works).

2) Europe. The situation in Europe is opposite of the United States. Not blessed with the appropriate geology, in the 2003-2013 decade the EU lowered its production of oil 54% to 68.4mbd, forcing it to import >99% of the 12.8mmbd that it consumes annually and pay for it at market prices. As it can be imagined this has caused much damage in its economic growth potential to the point of registering negative growth figures in 2008-2013 (-0.3%) and barely 0.8% in 2014, with unemployment numbers that hover 11% as a whole, an eminent danger of deflation and rock bottom interest rates. Given its naught oil reserve levels and lack of energy alternatives in most cases the continent has had to shift its energy matrix towards

coal and has increased its oil storage capacity beyond historic levels, which explains why Brent prices are trading now at double figures over WTI when historically WTI has been the priciest variety. The situation in Japan and Sough Korea, which also import all of the oil they consume, is similar.

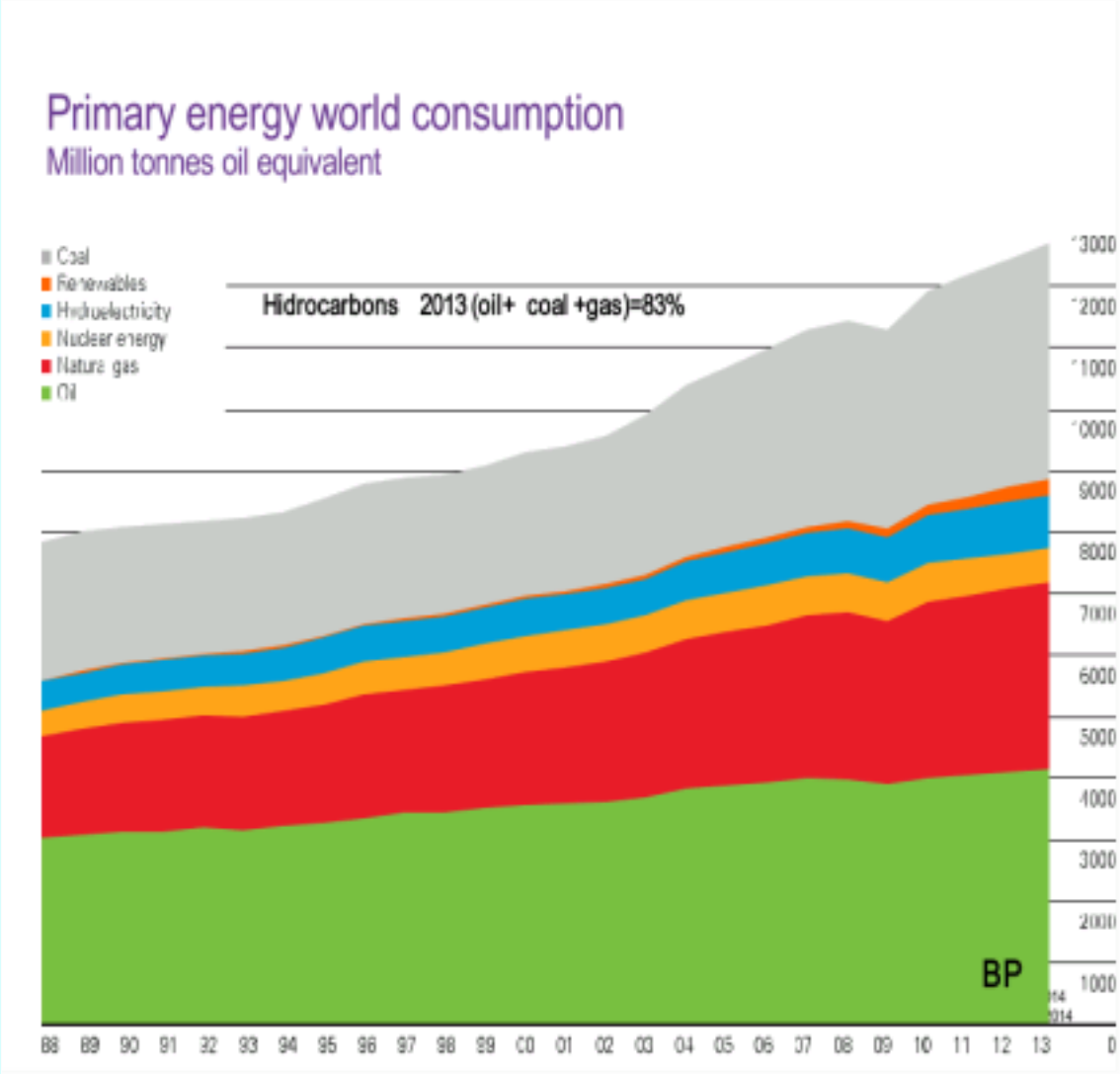
3) Saudi Arabia: As has been indicated in our past 2 reports now available in our web page www.energynomics.com.ve, Saudi Arabia acted in an altruistic and humanitarian manner not only by not agreeing to cut oil production in the OPEC meetings (even though the Venezuelan delegation begged them to) but also in offering attractive discounts to the most affected economies, like Japan and South Korea. Their motive for this action is due to clear and present danger signs of recession and deflation from every industrialized nation, including the USA (which reported negative growth in 1Q2014 and in Germany and the rest of the EU which reported negative growth in 2Q2014. With the exception of the United States none of those countries have reached the level that they had prior to 2008 and all are affected by lower living standards and even political instability (Greece, France, Spain, Italy); the EU has already all but conceded a lost decade since 2008. China is growing at the lowest level in a quarter of a century, Japan is still in a decade and half of recession and deflation to the point that they have been forced to apply "induced coma policy" of hiking consumer tax increases to lower economic growth in an effort to mitigate accompanied demand and oil price increases. According to the IMF all of the Advance Countries registered on average a growth figure lower than 1% in the 7 year span of 2008-2014 which is a perilously low level. Saudi Arabia, conscious of all of this, decided in June to offer its clients much needed energy relief; a move that can only be accrued as a humanitarian gesture on their part and, also in a lesser manner, as a move to protect the interest of their clients (Capitalist entrepreneurs don't like it when their clients fold). If Venezuela, Russia, Iran, Nigeria and even México are hurt by this Saudi move, so be it; they have had too much of the good life by squandering the ultra billionaire wealth transfers from the consuming countries and now is the time to alleviate the rest of the World consuming nations,

4) Winter. 2014-15 winter season has been nothing short of brutal, especially in the United States, which recorded record levels of low temperatures and equally record high levels of snowstorms and precipitations. But March is the door of spring season and its demand for heating oil is dropping rapidly, so will oil prices.

5) Strike. There are reasons to believe that the strike in the refineries of the United States that has affected about 10% of its capacity will not percolate to other refineries, and that it will be solved soon.

6) Alternative Energies. Alternative Energies developments, like solar, wind, hidraulic, geothermal, biomass, nuclear etc have not had the positive impact some people hoped for a variety of reasons. Many of them take up too much space and produce too little energy, others are not deemed safe, others suffer from scalable issues, others imply too much sacrifice in food production and the environment, and others have just too many technological challenges that impedes them to cheapen costs and develop economies of scale. The proportion of hydrocarbons in the

overall World wide energy matrix is still 83%, as it was a decade ago before the quadrupling of the oil prices. This has led some countries to shift to coal (China uses coal for 70% of its energy mix) and that competes with oil in electrical generation which induces a lowering of oil prices. Coal as we know is highly polluting and a quick google search for Chinese pollution will give you a frightening perspective of the air quality there.

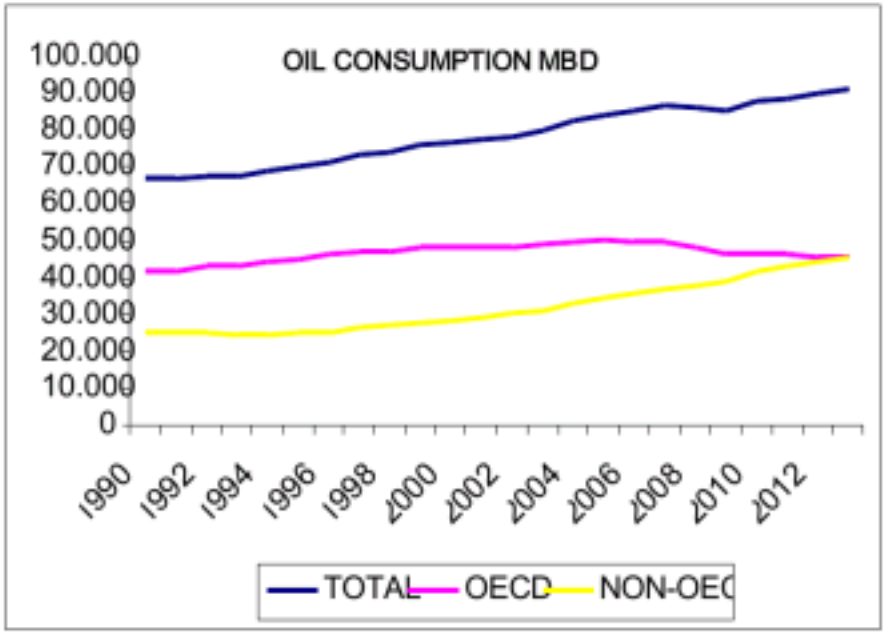


7) Russia. The conflict between Russia and Ukraine is not escalating and it appears to be on a verge of resolution, or at least too far away too affect Russia oil production which also has been growing to offset price decline. Same goes for Irak and Libia both of which have many problems to resolve but which have manage to keep most of those problems away from their oil wells.

8) Iran. Another factor that is influencing the lowering of the oil prices is that it appears that a diplomatic resolution involving Iran is just around the corner, or at least within sight. If this is true the sanctions of oil exports of Iran will disappear

and, hopefully, Iran will allow foreign investments there. This will flood the oil market and put downward pressure on the oil price.

DEMAND



In 1990 oil consumption in the Non-OECD nations was 37% of total oil consumption and OECD was 63%. In 2013 Non-OECD nations consumed a bit over 50% of total World oil consumption . The country that led this increase was China, who augmented its oil consumption over 4 times its 1990 level .. BP

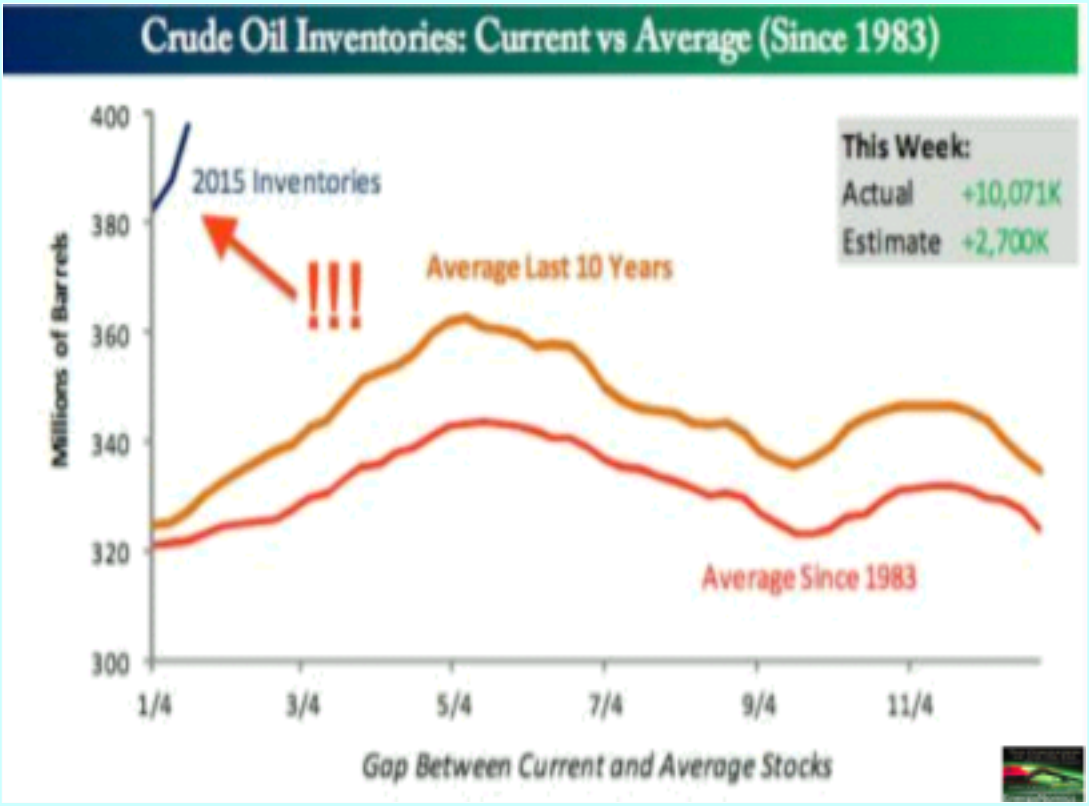
9) Growth

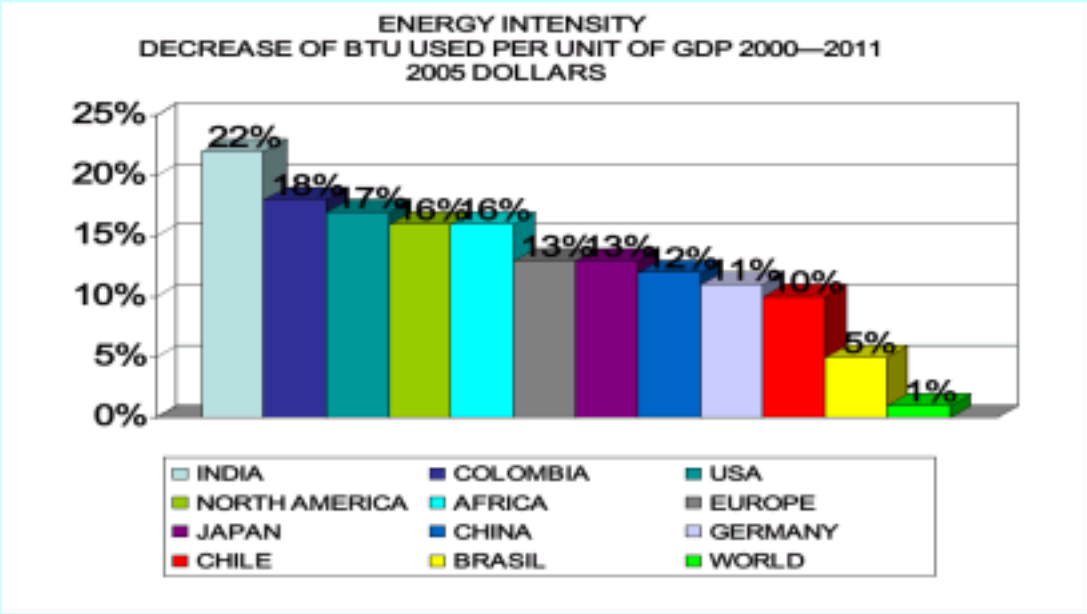
The overriding factor on the demand side is the economic growth of nations, which drive or stops crude oil demand. As we wrote above in point 2, the energy crisis of 2008 did a metastasis job in all of the relevant economic factors, including production, consumption, growth and monetary creation. The industrial countries (least of all the emerging countries) cannot keep paying triple digit oil prices when they are not growing and this figure is hovering just above or below zero right now. If Japan and Europe fall to the temptation of dumping austerity and applying Quantitative Easing policies as the USA did they run the danger of increasing oil demand and the price levels beyond which Saudi Arabia can control. We understand their need to grow, but it must be done with strict parsimonious policy.

10) Dollar. The USA paperback is riding its highest level in 40 years over the rest of the tradable currencies. Since oil is sold in dollars many industrialized and developing countries will find it harder to buy these dollars to pay for oil, which means that they will buy less oil and put downward pressure on the demand and prices.

11) Inventories. World oil inventories are abnormally high right now in all of the industrialized nations which we believe reflects their fear that this drop in oil prices is just temporary and soon they will hit $100 again so they better buy it when it is

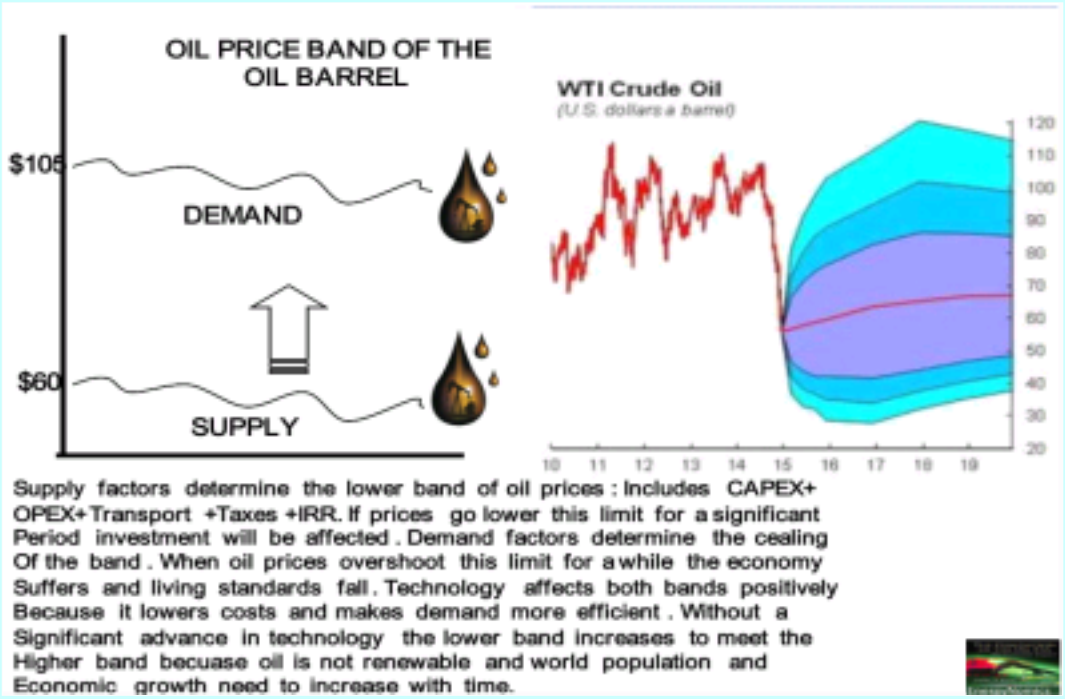
cheap. It's the biblical recommendation of saving when cows are fat so you have enough food when they are lean. Storing oil takes space and it is not free, and if the drop in oil prices prolongs itself it is predictable that countries will start eating up their inventories while they push for purchase of forward contracts.





12) Tecnology and Efficiency There isn't an economic sector in the World were people have not tried to maximize efficiency in the use of petroleum or any non-renewable energy source. From the refineries that have been re-structured to gain on the oil feedstock to refrigeration patters, agricultural fertilizer and water pump schedules and the hardest nut of all, transport. Technology doesn't create energy by itself, but it unlocks energy sources on the supply side and maximizes efficiency on the demand side. See Toyota's Mirai (http://www.toyota.com/fuelcell/fcv.html) that uses hydrogen and only generates water vapour as residue. If this car is a success (comes out in July 2015) and its produced massively with fiscal incentives that reduces costs, the transport sector will be much cheaper and its demand for oil will be much less. As we can see from the graph above almost every mayor region and country of the World that imports oil has invested much in energy efficiency, they have decreased the amount of energy used per unit of GDP, a reflexion of expensive energy times were wastage is minimized. In many cases this increase in energy efficiency can improve so more, in others not so much without sacrificing economic growth.

CONCLUSION

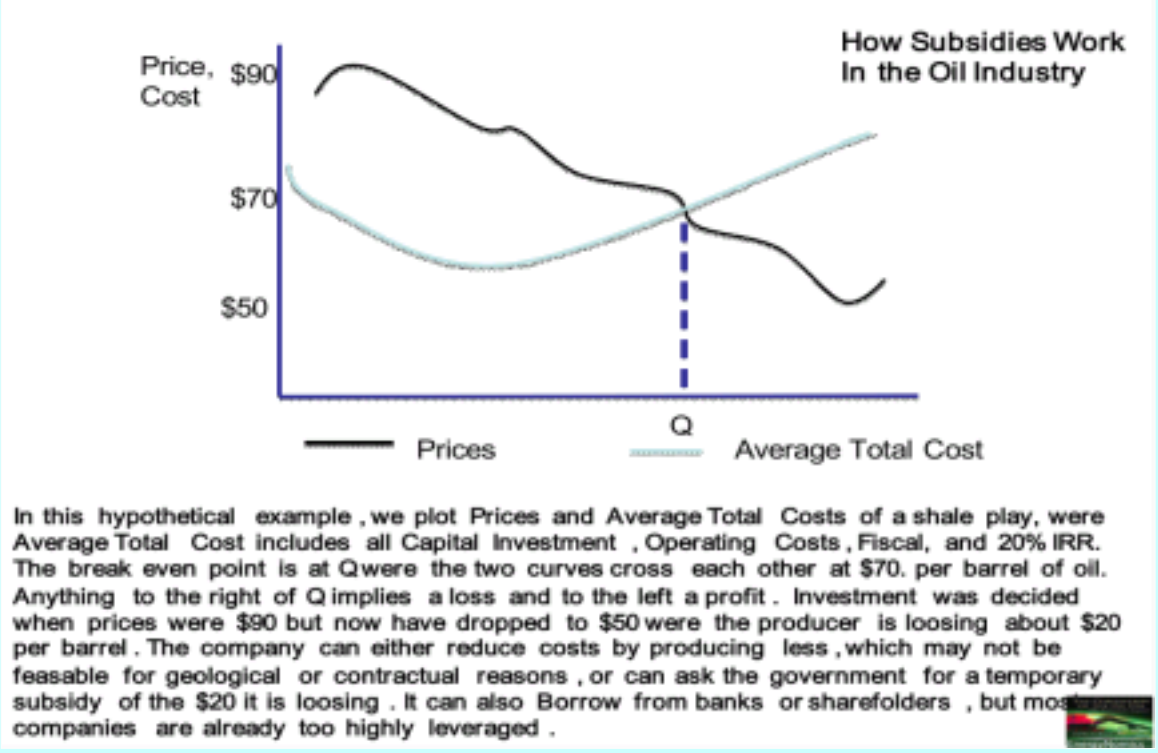


Knowing that the objective of Saudi Arabia and its OPEP allies (not Venezuela) is to offer help to the struggling economies of Europe and Asia, which have been sacrificing for a long period of time while transferring billions of their wealth to the OPEP countries through very high oil prices, for this strategy to work the desired effect should last for a long time; all of 2015 and most of 2016. A lot will depend on what happens in the demand side and consumption of the oil importing nations, and so far we at EnergyNomics believe that their politicians, economists and leaders they have handle it very well. It also depends a lot on what happens in the supply side of the

equation, most of which has been carried on the shoulders of Saudi Arabia, United States, Canada and Russia with the help of other members of OPEP, but regrettably with the negative contribution of Venezuela and, is a lesser way because of minor reserves, Mexico.

In the long run the oil prices should increase again for the simple reason that the cost of production per marginal barrel (that is how economist call the least desirable barrel in terms of cost that we need to clear demand) and which are located in the most inhospitable and hostile places of the planet-like 30 thousand feet deep below the sea floor through 5km of salt, the Artic, tar sands, and even trapped in tight reservoir rocks etc. Unless these ventures can be subsidized in a big way and permanently, many of these companies will suffer financial setbacks that may affect investment and production.

Notwithstanding, EnergyNomics does not believe that these ventures will go broke because they will be subsidized; oil consuming countries will not die of oil thirst for lack of Money, not now that they don't even have to print it any more, just transfer it electronically. The following graph illustrates a hypothetical example of how this works. EnergyNomics also believes that those people that felt and continue to feel that the real motive behind Saudi Arabia's move to lower oil prices was to bring total ruin to American Shale oil investment simply are not knowledgeable of how the oil industry works; they underestimate the power, intelligence and resolve of America in protecting their own home-grown oil industry, or both



In this hypothetical example , we plot Prices and Average Total Costs of a shale play, were Average Total Cost includes all Capital Investment , Operating Costs , Fiscal, and 20% IRR. The break even point is at Q were the two curves cross each other at $70. per barrel of oil. Anything to the right of Q implies a loss and to the left a profit . Investment was decided when prices were $90 but now have dropped to $50 were the producer is loosing about $20 per barrel . The company can either reduce costs by producing less , which may not be feasable for geological or contractual reasons , or can ask the government for a temporary subsidy of the $20 it is loosing . It can also Borrow from banks or sharefolders , but most companies are already too highly leveraged .

As we all know demand plays a determinant role in the formation of prices of every product and energy is not an exception. The 3 digit oil prices that were registered since 2008 and

hovered high until half way through 2014, with the exception of a momentary collapse product of the energy-financial crisis in 2009, has caused severe strains in the economies of Europe, Asia and in a lesser way the United States which has been reflected in lower economic growth, lower prices, rock bottom interest rates and lower living standards. This is something all practical economists know but academic economists still have to catch up on, energy IS a factor of production at equal levels with capital and labour[1)].

The predictions of some so called "experts" like Goldman Sacks that forecasted in 2008 that oil prices would hit $200 in 2 years and a Venezuelan Economist that predicted $325 simply underestimated the impact of petroleum in the production function of countries, as it is with consumption, growth, living standards and money creation.

Since energy is a factor of production, a severe scarcity that quadruples prices in less than a decade causes harm to the real sector of the economy with metastasis in the rest of the sectors, particularly the financial sector. This is because for finance to work the future must be bigger than the present; if the future is smaller than the present, then companies do not make sales and cannot pay their bank loans, the bank cant pay their own loans to other banks and so forth until credit is stopped altogether and since everyone needs credit of some sort, the economy grinds to a halt and stocks collapses, which is a very important wealth source for both companies and consumers. That is exactly what happened in the Great Depression of 1929-1939, except that back then it was strictly a badly handled financial crisis that should never had evolved into a Depression had the Central Bankers of the time knew what they were doing. When the recession hit in 2008 Central Bankers were much wiser and prevented the Great Recession to turn into a general depression through quantitative easyning and that is to their credit; they were able to do this because they had all read the works of one of the two greatest economist of the 20th Century, Milton Friedman, who devoted much of his life in explaining how monetary theory works in this kind of situation. Granted, the big difference between now and then is that this time energy sources got scarce and expensive, which is why the crisis hasn't been cured altogether; but it is much to their credit that they did not allow things to get much worse; as some of us feared that it might.

VENEZUELA

Venezuela is left very badly standing in all of this because is not up to the level of the international role it is required to play given its possession of the World's largest oil reserves. When Venezuela officially solicited OPEP to lower oil production levels to re-establish triple digit oil prices with the sole purpose of sustaining the crazy spending of its leaders and cronies,

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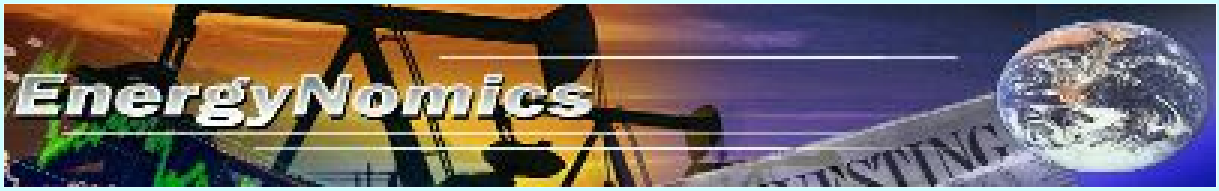
[1)] See Carlos A. Rossi, **The Energy Within Economics & The Bubble Envelope Theory for Human Prosperity** (New York, Nova Science Publishers 2012).



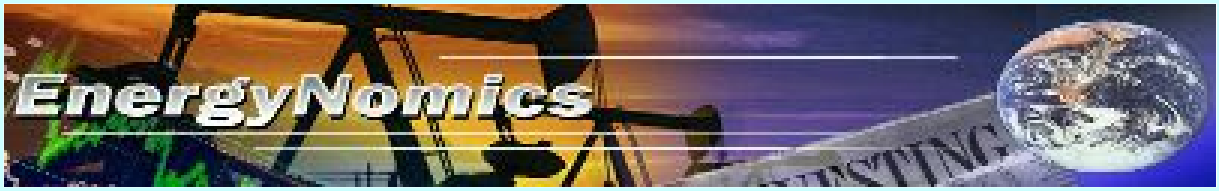
while at the same time imposing impossible conditions for international companies to invest in its oil fields, its production declined (according to OPEP and BP) a full 33% to 2333MBD in the 1998-2014 era when Hugo Chavez took office in spite of the fact that its proven oil reserves increased a full 285% since 2002 and 370% since 1992 to just short of 300Billion Barrels.

This not only proves beyond doubt that Venezuela became a grossly incompetent country during Chavez but, much more treacherously, Chavez managed to place Venezuela in the opposite side of the prosperity equation of everyone else; what is good for Venezuela is what hurts the people everywhere else in the planet. Venezuela factually asked for the people of Europe, Asia, much of Africa and North America to continue with low growth levels and worsening living standards because it needed high oil prices to sustain the lifestyle of its statist plutocracy. Saudi Arabia, the Untied Arab Emirates and Kuwait said no.

Given the vast amounts of its oil reserves Venezuela could easily be in the same league as Russia, The United States or Saudi Arabia with oil production levels between 7-8mbd. Given that we already know for sure that energy is a factor of production as important as capital and labour in the industrial process, just imagine how much more prosperous the World would be right now if it could count on 4-5 million of more oil barrels per day in the market today. You can say that Venezuela's current Government has a heavy hand in the Worlds current economic malaise and its all do to its managerial incompetence and the crooked ethics and morals of its government.

When oil prices were stable at triple digits Venezuela implanted and economic model that destroyed its entire non-oil production, including agriculture, manufacturing, and most services because of expropriation of over 1200 companies, corruption in the state owned companies, non-payment to the rest, and up to year long delays in the supply of hard currency to purchase raw materials. This shattered Investment confidence and trust in the basic business models international investors expec like managerial and labor confidence; forward looking outlook; juridical security; right business ethics and morals; and sound institutions. Venezuela's industrial capacity is now working at around 40% of installed capacity while the country has became dependent on oil revenues for a full 96% of its foreign income and it now imports between 50-60% of consumption. This is the epitome of a rentier society. By implanting what can only be called an Oclocracia political model (archaic mob power) the resulting destruction also affected its institutional structure, its ethics and morality and now because of hyper-inflation and scarcity, its one triumph-poverty-has statistically reverted back to 1998 levels when Hugo Chavez was elected.

In the oil economy Chavez reverted all of the gains of its predecessors and you have to go all the way back to 1990 when oil production was this low. He did this by forcing migration agreements to all of the multinationals to what he called "Mixed Enterprises", meaning mixed companies that were owned, on average, 60% by the government and 40% by the private investor(s). This meant that the government would have to put up on average 60% of the investment in every project of the Faja del Orinoco (the huge Faja is divided in 29 blocks each one of 500km2 approximately and every project is in the 10^{th} of billions) not counting PDVSA's other commitments in maintaining oil production in the rest of the country (West-Maracaibo and North-East Monagas) plus its multi-refinery complex, gas wells and petrochemicals. Sum to all of this is that PDVSA has had to directly and indirectly cover up the huge destruction of the non-oil economy by providing hard cash to import what was not produced any more. If you add



in the internal and increasing external debt both in US Dollars and Venezuelan Bolívares, the high import bills, the ever demanding exigencies of the military establishment, the dirt low internal gasoline prices that PDVSA has had to subsidize to the tune of >$12 Billion Dollars per year-the lowest priced gasoline of the World by far-which predictably has resulted in a very lucrative corruption business for the military and their cronies, and the ever demanding corruption hand outs of the closed allies of the Government (known as the Boliburgueses) then you get the whole picture of the sorry state that Venezuela is in right now and, given the philosophical statist mentality of its leaders, you also get a full picture that they will never change course unless the country reaches rock bottom.

It would have already reached rock bottom had it not been for the handy extremely generous help of Maduro's closest ally, China, who is extremely interested in Venezuela's oil reserves because it has close to 20% of the Worlds population, the second highest GNP, a rising middle class of about 260million (form 25million a decade ago) and just 1% of the Worlds oil reserves. To give you one example, China produces close to 50% of the World's steel and that industry alone uses more energy than Germany. The Chinese banks have already lent Venezuela over $50Billion, about half of all of its loans to Latin America that we know off, and Venezuela is expecting between $10 and $20 billion more in exchange for bigger oil shipments, which are about 700mbd and increasing (at the expense of the USA and-soon-India).

Does all of this make Venezuela a national threat to the United States. EnergyNomics thinks that it does, and not just to the United States but to every oil importing country in Europe and the World. This will be the theme of our next take that we would be glad to share with you.