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Where is the Crude Oil Price Headed?

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Dr Mamdouh G. Salameh is an international oil economist, a consultant for the World Bank in Washington D.C. on oil and energy and also a technical expert with the United Nations Industrial Development Organization (UNIDO) in Vienna. He holds a PhD in Economics specializing in the economics & geopolitics of oil and energy. Dr Salameh is also a visiting professor of energy economics at the ESCP Europe University in London.

Dr Salameh has presented papers to numerous international energy conferences on the economics and geopolitics of oil and energy and has been frequently invited to lecture on these topics at universities around the world. He has written three books on oil: **“Is a Third Oil Crisis Inevitable?”** (published in London in April 1990), **“ Jordan’s Energy Prospects & Needs to the Year 2010: The Economic Viability of Extracting Oil from Shale”** (published in London in October 1998) and **“ Over a Barrel”** (Published in the UK in June 2004) as well as numerous research papers published in international Oil and Energy Journals. Dr Salameh has undertaken research assignments for the US Department of Energy, the World Bank, the Institute of Energy Economics in Japan, the Indian Government, OPEC, the Canadian Energy Research Institute, Boston University working on the Encyclopedia of Energy and also the Handbook of Energy and the government of Jordan among others. He regularly appears on TV to discuss oil prices and other developments in the global oil market.

Dr Salameh is a member of many International Institutes and Associations including the International Association for Energy Economics (IAEE) in the US, the British Institute of Energy Economics, the International Energy Foundation in Canada, the International Institute for Strategic Studies (IISS) in London, and the Royal Institute of International Affairs (RIIA) in London. He is also an advisor to the Oil Depletion Analysis Centre (ODAC), London.

Where is the Crude Oil Price Headed?

By
Dr Mamdouh G Salameh*

Abstract

Crude oil is one of the hardest markets to predict because there are so many conflicting crosscurrents that affect its price including supply and demand, the health of the global economy, geopolitics and the global monetary and regulatory environment. Whenever a conflict occurs in an oil-producing country, oil prices rise. It's one of the most predictable patterns in the markets. In the short term, two major geopolitical developments could impact immediately and very adversely on the oil price: one is a deterioration of the situation in Iraq affecting its oil infrastructure and production and the second is an escalation of the Russia-Ukraine conflict causing a disruption in Russian oil and gas supplies to the European Union (EU). In the long term, however, the real threat to global oil supplies and the price of oil comes from the steeply-rising domestic oil consumption in the Arab Gulf countries and a lack of diversification of their economies. This paper will argue that a disruption of Iraq's oil production could push oil prices to more than \$140/barrel whilst any disruption of Russian oil supplies to the EU could easily add \$20-\$30 to the price of oil. It will also argue that failure by the Arab Gulf countries to curb their domestic oil consumption drastically or replace oil by nuclear power and solar energy in electricity generation and water desalination, would probably result in the complete collapse of their oil exports by 2032. This could send oil prices rocketing to \$200-\$250/barrel.

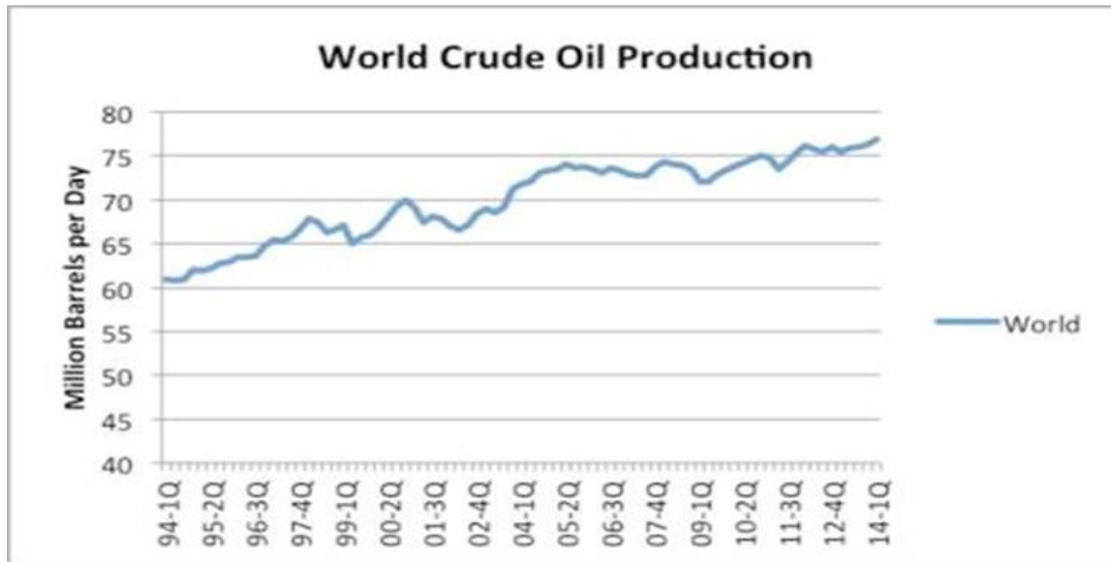
Key Words: Oil, Iraq, Ukraine, Arab Gulf, geopolitics, price volatility, tight oil.

Introduction

While it is possible to forecast global oil production with some degree of certainty given the production capacity of major producers and their production trends over a number of years, it is virtually impossible to forecast an accurate price of oil because of the many conflicting crosscurrents that affect the price including supply and demand, the health of the global economy, geopolitics and the global monetary and regulatory environment. The standard way to make forecasts of almost anything is to look at recent trends and assume that this trend will continue, at least for several years.

The trend for global oil production looks slightly upward (see Figure 1). However, if we examine the situation more closely, we realize that we are dealing with an unstable situation. Arab Gulf producers are particularly at risk of instability given the insurgency in Iraq by the Islamic state of Iraq & Syria (ISIS) and the large number of refugees moving from one country into another.

Figure 1



Source: US Energy Information Administration (EIA) Data.

The top ten oil-producing countries in the world have a variety of problems (see Table 1).

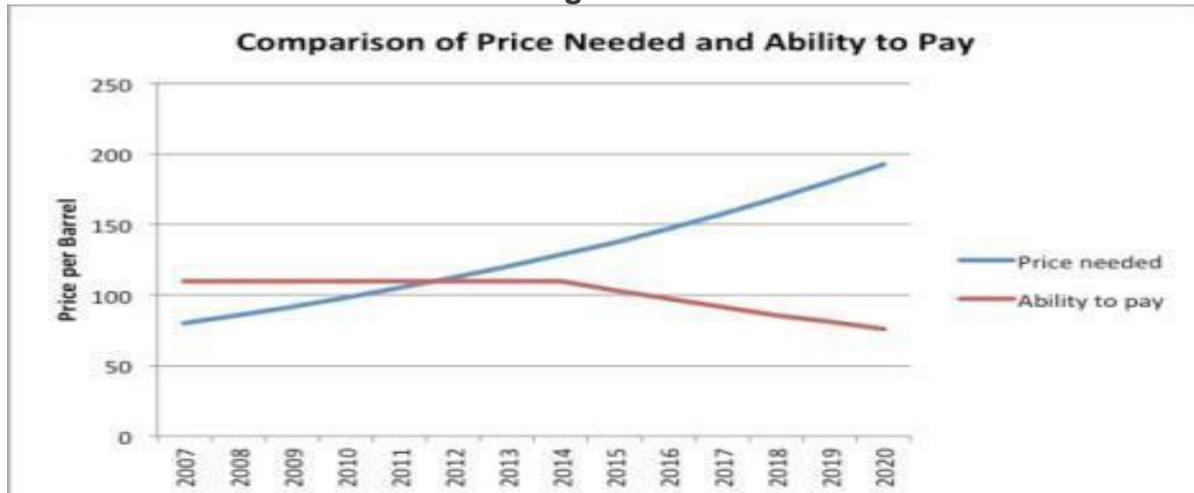
Table 1
Top Ten Crude Oil & Condensate Producers
First Quarter 2014

Rank	Country	Production (mbd)	Prospects
1	Russia	10.1	Decline
2	Saudi Arabia	9.8	Decline/Unstable
3	United States	8.1	Bubble
4	China	4.2	Flat/Decline
5	Canada	3.5	Flat
6	Iraq	3.3	Unstable
7	Iran	3.3	Decline/Unstable
8	UAE	2.8	Unstable
9	Kuwait	2.7	Unstable
10	Mexico	2.5	Decline

Source: EIA.

Relatively low oil prices are part of the problem. Oil production costs are rising much faster than the selling price of oil and the gap is widening further. In fact, the selling price hasn't really risen since 2011 because consumers can't afford higher oil prices with their stagnating economies (see Figure 2).

Figure 2



Source: Based on EIA data.

A virtually flat oil price could lead to political instability in oil-producing countries particularly in the Arab Gulf region because they increasingly need higher oil revenues to fund the social programmes needed to pacify their people (such as food and fuel subsidies, water desalination and employment). Low oil prices also make the plight of oil exporters with declining production worse, including Mexico and Venezuela. Mexico's crude oil production is projected to decline by 200,000 barrels a day (b/d) between now and 2015. **1**

Venezuela may have the largest crude reserves in the world, but acute economic mismanagement is preventing the country from achieving even a fraction of its energy potential. Venezuela's finances are currently being propped up by Chinese credit in return for the supply of cheap crude exports to China. **2**

Saudi Arabia and other Arab Gulf producers, for instance, need a minimum oil price of \$100/barrel to balance their budgets. The breakeven price has been increasing from \$20/barrel in the 1990s to \$100/barrel today. In the case of Iran, it needs a price of \$125/barrel to balance the national budget. **3**

Many people judge the future of oil supply by the size of the remaining reserves or, perhaps, by the energy return on energy invested (EROEI). None of these is the real limiting factor. The real limiting factor is the health of the global economy. There is plenty of reserves left and the EROEI of Middle Eastern oil is generally high. But instability could still bring a collapse of the global economy through steeply-rising oil prices as we had witnessed in 2008. So could the bursting of the US shale oil bubble through higher interest rates or more stringent lending rules.

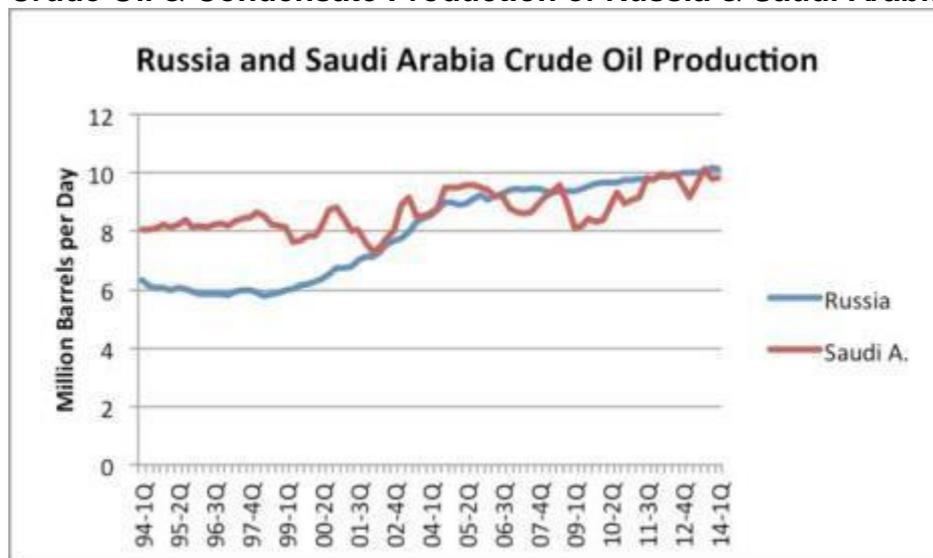
The Top Two Crude Oil Producers: Russia and Saudi Arabia

Russian oil production has been higher than Saudi Arabia's since 2006 (see Figure 3). Still both Russia and Saudi Arabia are heading towards problems.

Russia's oil production has hit a peak and is projected to fall, causing financial difficulties. Russian finances are heavily dependent on energy taxes, in particular mineral extraction taxes, export duties and excise duties on oil and oil products.

Facing a possible downturn in crude output over the coming years, the government is seeking a balance between higher energy taxes versus fiscal incentives to encourage investment in new output.

Figure 3
Crude Oil & Condensate Production of Russia & Saudi Arabia



Source: EIA Data.

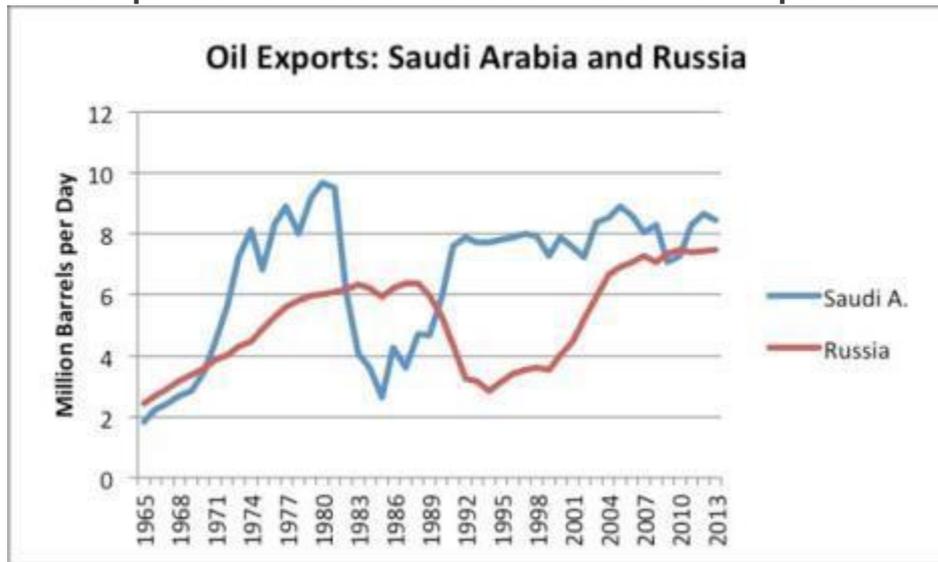
Growth in conventional output will slow before moving into reverse around 2016 as depletion rates at Russia's mature fields begin to exceed additions of new capacity. To boost crude output over the medium term, Russian energy companies must invest in unconventional oil: Arctic, shale and deep-water reserves. This will require extensive financing, and it will require the application of new technology. **4**

On the other hand, Saudi oil production is quite erratic compared to that of Russia. Part of the reason it is so erratic is that Saudi Arabia prolongs the life of its oilfields by periodically relaxing (reducing) production from them. It also reacts to oil price changes. If the oil price is too low as was the case in the latter part of 2008 and 2009, Saudi Arabia and other OPEC members cut their oil production to bolster the oil price. For Saudi Arabia, the tendency to jerk oil production around gives the illusion that it has spare production capacity. It is doubtful at this point that it has much real spare capacity.

Saudi Arabia has not been able to increase oil exports significantly for years (see Figure 4). Back in the 1970s and 1980s it gained a reputation for being able to increase exports at will to stabilize the oil price and has since been able to rest on its laurels. Its large proven reserves (which have never been audited and are doubted by many) add to the illusion that it can produce any amount it wants.

For Saudi Arabia, the flame of oil is not eternal. The horizon carries all signs of peak oil. Saudi Arabia, the world's second biggest crude oil producer and exporter risks ceasing to remain an oil exporter probably by 2025 if current economic, demographic and security trends continue into the future.

Figure 4
Comparison of Russian & Saudi Arabian Oil Exports



Source: EIA.

Saudi oil production peaked in 2005 and has been in steady decline since then with domestic oil demand rising at an alarming rate and accounting for 32% of crude production in 2013. As a result, Saudi crude exports have already declined by 23% between 2005 and 2013 and are projected to decline further by 8% by 2015. Population growth and robust economic development and also fuel subsidies drive that demand. **5**

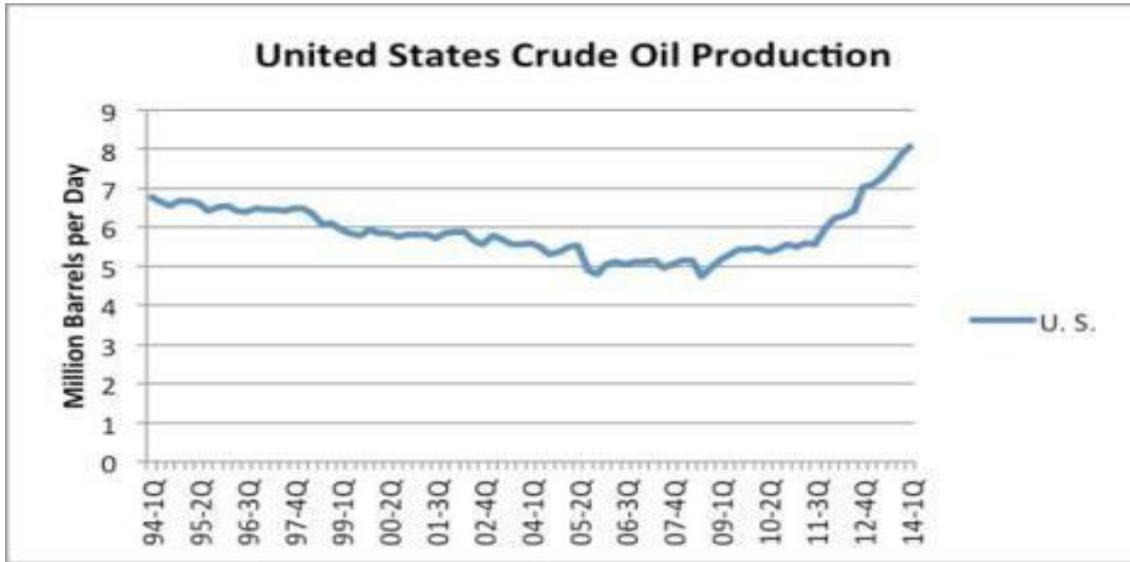
In 2013, Russian oil exports of 7.48 million barrels a day (mbd) exceeded Saudi exports thus signifying that the world has become increasingly as dependent on Russian oil exports as on Saudis'. Most people are not aware of this fact. **6**

The current instability in the Middle East has not hit Saudi Arabia yet, but there is increased fighting all around. Saudi Arabia is not immune to the problems of its neighbours. There are occasional reports about a hidden uprising taking place in eastern Saudi Arabia.

US Shale Oil Production is a Bubble Waiting to Burst

The US is the world's third largest producer of crude and condensate. Thanks to shale/tight oil production, US production in the first quarter of 2014 has risen to an estimated 8.1 mbd (see Figure 5).

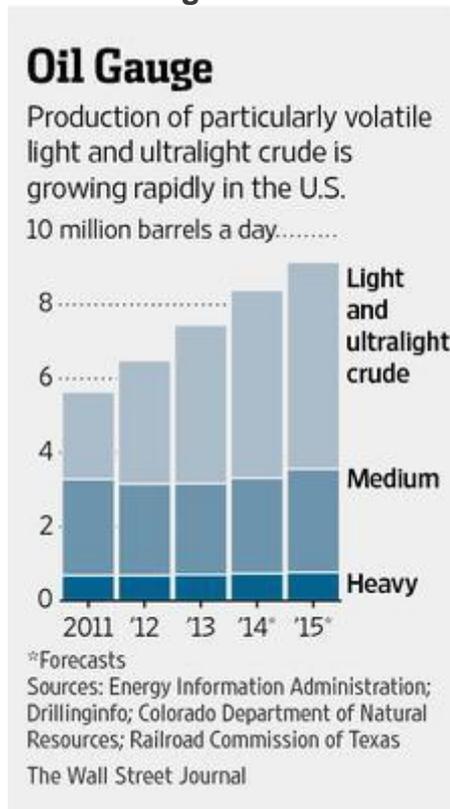
Figure 5
US Crude Oil Production



Source: EIA Data, AEO 2014 Early Release Overview.

The new crude is much lighter than traditional crude. According to the Wall Street Journal, light and ultralight oil production now accounts for almost two-thirds of US crude oil production (see Figure 6).

Figure 6

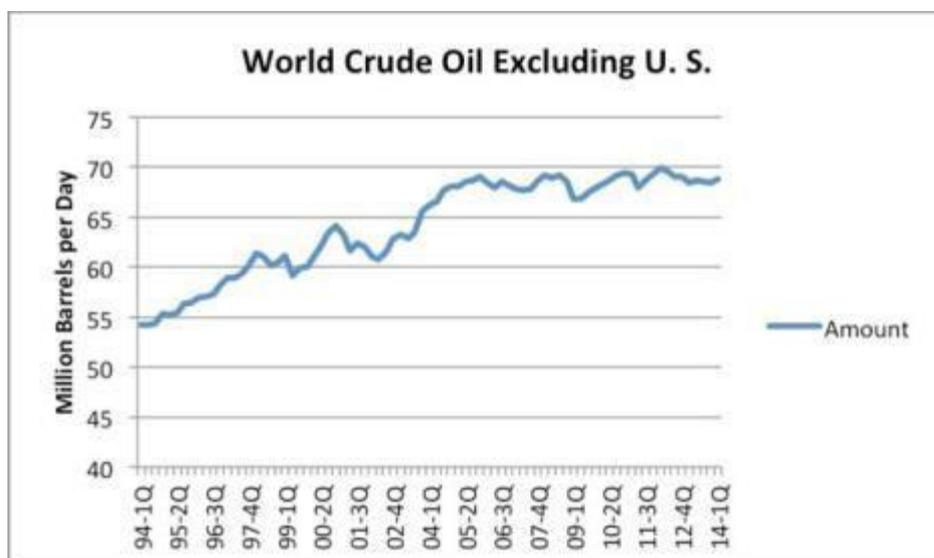


Source: Courtesy of the Wall Street Journal

However, there are many issues with the new “tight oil” production:

- 1- The new oil production is so “light” that a portion of it is not usable to power cars and trucks. The very light “condensate” portion (similar to natural gas liquids) is especially a problem.
- 2- US oil refineries are not necessarily set up to handle such a crude with so much volatile materials mixed in. Such crude tends to explode, if not handled properly.
- 3- These very light fuels are not very flexible the way heavier fuels are. With the use of “cracking” facilities, it is possible to make heavy oil into medium oil (for gasoline and diesel). But using very light oil products to make heavier ones is a very expensive operation, requiring “gas-to-liquid” plants.
- 4- Because of the rising production of tight oil, the price of condensate has fallen in the last three years. If more tight oil production takes place, prices of condensate are likely to drop even further. Because of this, it may make sense to export the “condensate” portion of tight oil to other parts of the world where prices are likely to be higher. Otherwise, it will be hard to keep the price of tight oil high enough to encourage more production.
- 5- Tight oil production is a “bubble”. The big increase in US oil production since 2009 has been taking place against a background of relatively high oil prices and very low interest rates. If interest rates should rise, or if oil prices should fall, the bubble will burst. Investment in US Oil E&P will remain strong as long as US oil prices remain above \$85-\$90/barrel. **7**
- 6- Another potential problem is oil companies hitting borrowing limits so that they cannot drill more wells to maintain production. And without US oil production, world crude oil production would have been on a plateau since 2005 (see Figure 7).

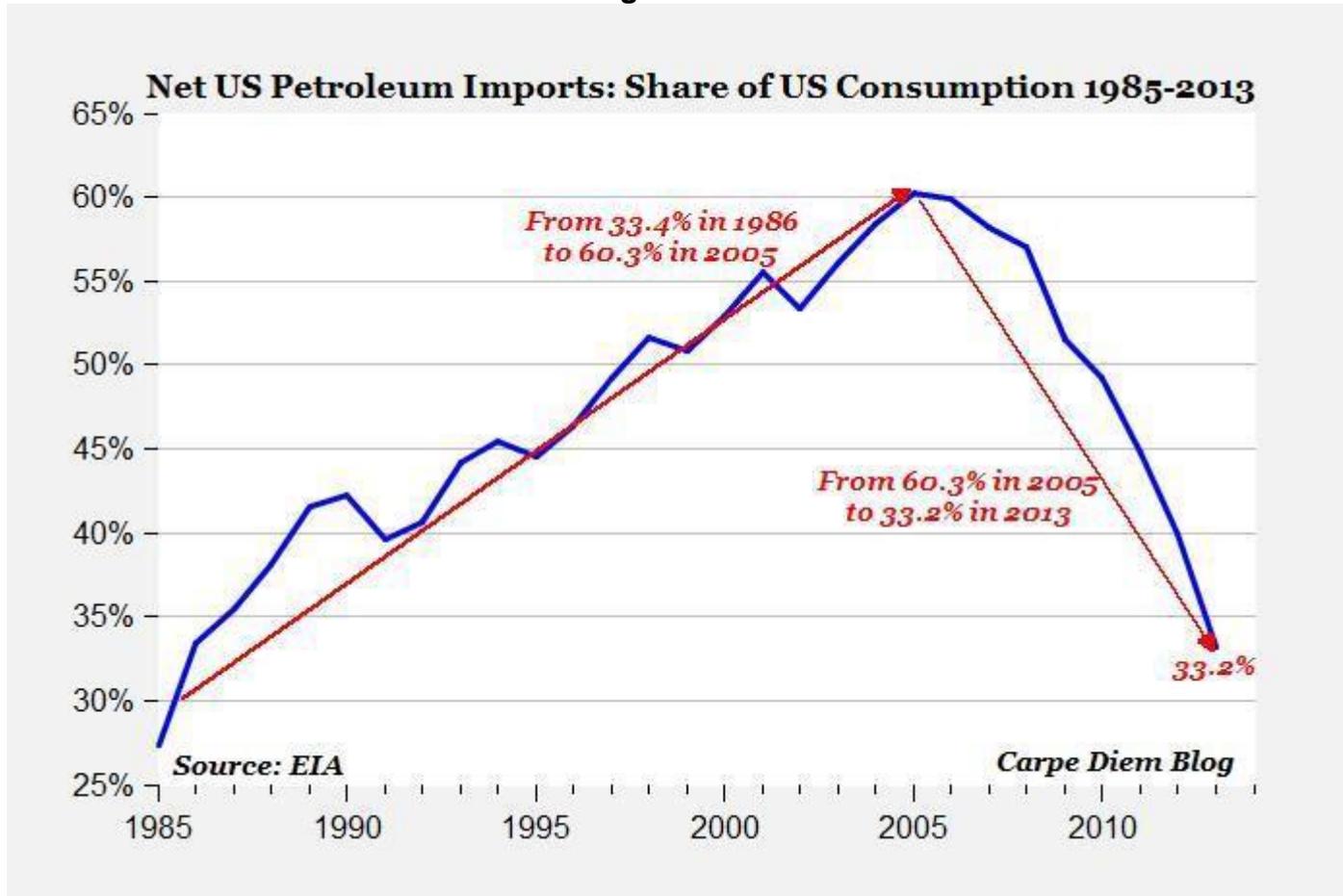
Figure 7



Source: EIA Data.

US shale oil boom has enabled the United States to reduce its net oil imports from a peak of 12.48 mbd (or 60% of US demand) in 2005 to 6.27 mbd (or 33.2% of demand) in 2013 (see Figure 8). Still, the United States will continue to be dependent on foreign oil imports for the foreseeable future. **8**

Figure 8



Source: EIA.

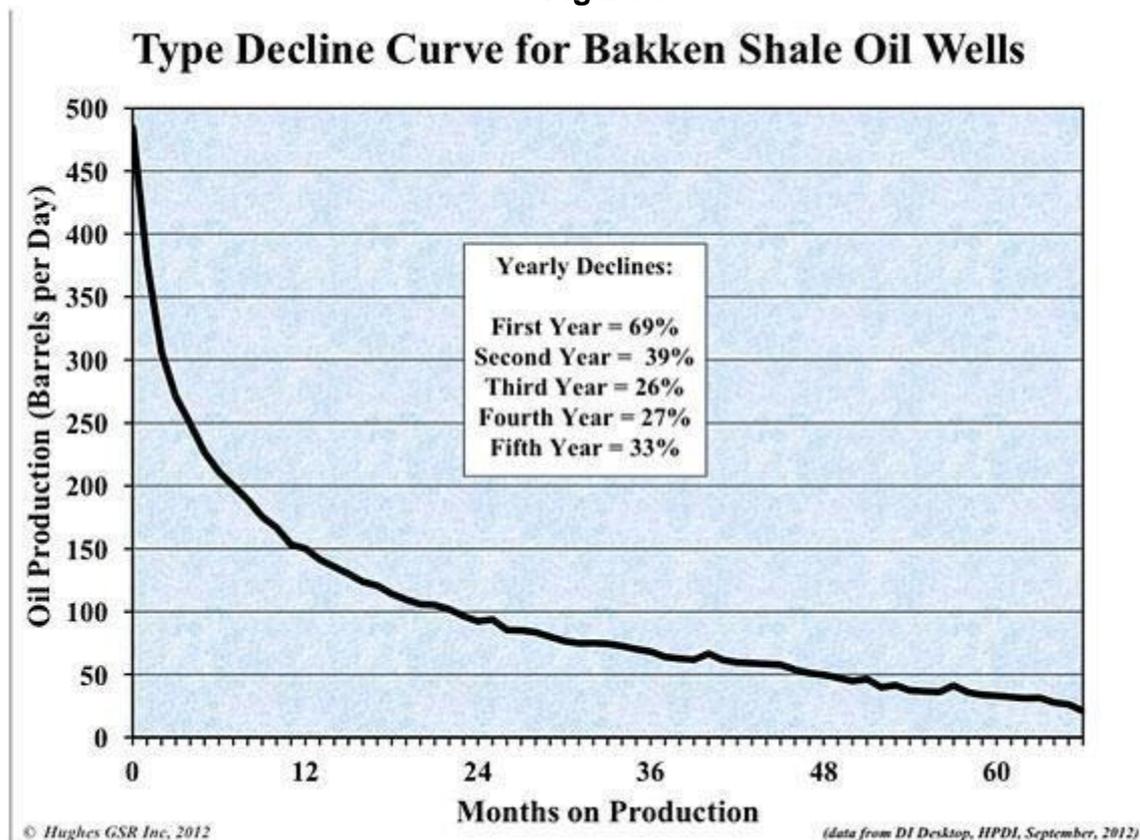
U.S. oil production is projected to rise to 8.3 mbd by 2015 whilst Canada's sand oil production is projected to reach 3.9 mbd in 2015, much of which will be exported to the United States. **9**

This is one of the main reasons why global oil prices have remained relatively flat over the past several years despite the Arab Spring upheavals that led to an 80%-decrease in Libyan oil production and other disruptions. Oil prices could have soared beyond \$120/barrel without the extra US oil production. If the US shale oil boom were to continue in the next few years, it could exert further pressure on crude oil prices.

But despite the optimism that many people have about the shale oil boom, sooner or later the world will realize that shale is an industry of diminishing returns. In plain terms, it is a temporary bubble waiting to burst. Shale oil extraction is a very capital-

intensive business that relies heavily on cheap credit to survive. Shale oil wells experience much faster decline rates than conventional oil wells, which means that energy companies must keep drilling at a furious pace just to maintain production – a very costly proposition that is typically funded by copious amounts of debt (see Figure 9). Oil companies should replace 40%-45% of the current production each year to maintain production. Roughly the US will need more than 9,000 wells costing more than \$50 bn to counterbalance the production declines. **10**

Figure 9



In addition to cheap credit, shale oil production’s entire existence is predicated on today’s relatively high oil prices. Were the price of oil to drop below \$70-\$80 per barrel, many shale energy companies would fail in a short time as the industry goes bust. Ironically, this shale energy bust scenario would ultimately lead to even higher oil prices in the longer run after the world realizes that shale oil doesn’t quite live up to its hype.

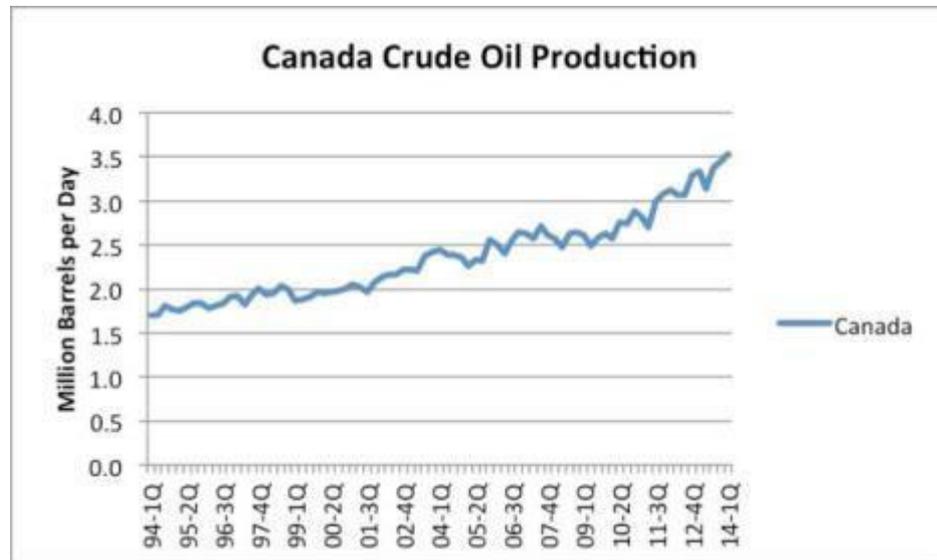
Canadian Oil Production

The other recent success story with respect to unconventional oil production is Canada, the world’s fifth largest producer of crude and condensate. Canadian oil production has more than doubled since the beginning of 1994 (see Figure 10).

However, the biggest threat to Canadian sand oil production is falling crude oil prices. International oil companies operating in Canada such as ConocoPhillips, Exxon Mobile and Royal Dutch Shell need crude oil prices as high as \$150 a barrel

to turn a profit from Canada's oil sands, the costliest petroleum projects in the world, according to a study. **11**

Figure 10



Source: EIA Data.

The projects most at risk from lower prices are ConocoPhillips's Foster Creek development and Shell's Carmon Creek, oil-sands developments in Alberta that respectively need \$159 and \$157 a barrel oil to be profitable. A joint ConocoPhillips and Total oil-sands project called Surmont requires \$156 a barrel, while Exxon Mobil Corp.'s Aspen and Kearl developments in the same part of Canada need \$147 and \$134 crude, respectively. **12**

New oil sands projects require \$60 to \$100 crude to make sense. The returns may not be stellar compared to some other projects but they are steady.

Of course, there are environmental issues with respect to oil from both the oil sands and US tight oil. When we scrape the bottom of the barrel, we end up with the less environmentally desirable types of oil. This is part of our current problem, and one reason why we are reaching limits.

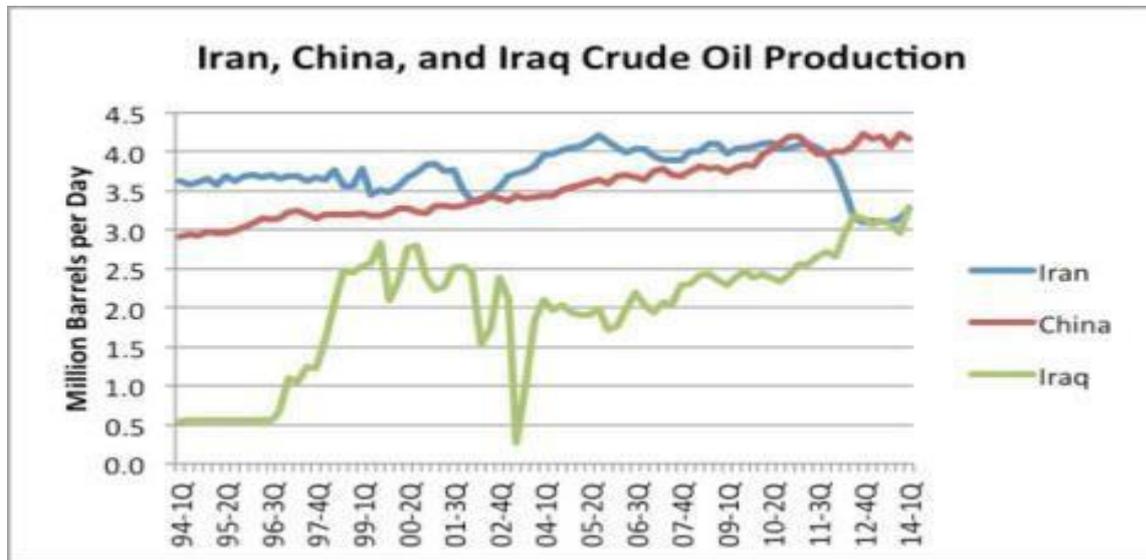
Oil Production in China, Iraq, and Iran

In the first quarter of 2014, China was the fourth largest producer of crude oil. Iraq was sixth, and Iran was seventh.

In 2010 Iran was the fourth largest producer of crude oil in the world. Iran's oil production in the first quarter 2014 was 870,000 b/d less than in 2010. If sanctions are removed, oil production could theoretically rise by about this amount (see Figure 11).

China has relatively more stable oil production than Iran. But its production has been virtually flat since 2010 and it is not clear whether China will be able to maintain its current level of production. The lack of growth in China's oil supplies may be behind its recent belligerence in dealing with Vietnam and Japan vis-à-vis the disputed islands in the South China Sea.

Figure 11



Source: EIA Data.

Thanks to improvements in oil production in Iraq and sanctions against Iran, Iraq has overtaken Iran in oil production to become the second biggest oil producer and exporter in OPEC after Saudi Arabia. However, given Iraq's current problems with the ISIS insurgency and with Kurdistan, one would expect its oil production to be erratic.

Geopolitical Developments that Could Impact on the Oil Price

In the short term, two major geopolitical developments could impact immediately and adversely on the oil price: one is a deterioration of the situation in Iraq affecting its oil infrastructure and production and the second is an escalation of the Russia-Ukraine crisis resulting in a disruption of Russian oil and gas supplies to the EU.

In the long term, however, the real threat to the price of oil comes from the steeply-rising domestic consumption in the Arab Gulf countries. **13**

1-The Iraqi Factor

Whenever a conflict occurs in an oil-producing country, oil prices rise. It's one of the most predictable patterns in the markets. However, unlike the previous conflicts of the last 40 years, the current conflict in Iraq has the potential to push prices to unprecedented levels.

While Iraq has been the centre of political and military strife for decades, this situation is very different from any conflict that has come before. The current

situation in Iraq is a religious war between the Sunni militants and Shiite Muslims. It is actually a proxy war between Iran and Saudi Arabia being fought on the territories of Syria and Iraq.

The situation escalated in June when Sunni militants from the ISIS began attacking cities in northern Iraq in an attempt to overthrow the Shiite-controlled government. In the month of June, 2014, militants overtook much of northern Iraq including the country's second largest city, Mosul, the city of Fallujah and one of the country's largest oil-producing provinces, Kirkuk.

The fighting has left the country on the verge of disintegration, as Sunnis, Shiites, and Kurds in the northern region wrestle for control. The insurgency has affected major oil fields and refineries in Northern Iraq.

Iraq's oil production is currently 3.3 mbd. Five oilfields in Kirkuk alone account for roughly 500,000 b/d. The violence has not yet affected the southern part of the country where the bulk of Iraq's oil exports originates, but it has still affected oil prices. WTI crude hit its highest price since June 2011 when a barrel cost \$106.64. And \$106/barrel is cheap compared to how high oil prices could go. **14**

The success in northern Iraq of the ISIS clearly demonstrates the extent to which the country is at risk of fracturing along religious and ethnic fault lines. ISIS poses a threat not only to Iraq's stability but also to Iraq's oil supplies and energy infrastructure. The refinery at Baiji, near Mosul, has been under ISIS control since June, 2014. With a capacity of 310,000 b/d, it is the Iraq's biggest. It supplies oil products to Baghdad and most of the Northern provinces. Baiji is also a major provider of power to Baghdad. By targeting Iraq's oil facilities, as it did with Baiji and the Mosul dam (which was retaken from ISIS on the 19th of August), ISIS is undermining both government revenue and essential energy supplies (fuel and power). **15**

Nevertheless, with the majority of Iraq's operational oil infrastructure located either in the Shia-dominated far south or the north-eastern Kurdish autonomous region, it is unlikely that Iraq's oil supply will be materially affected, unless the conflict escalates substantially. What is more worrying is the risk that ISIS might advance into Baghdad, threatening the potential breakdown of Iraq as a sovereign entity.

2-The Russian-Ukraine Crisis

Russia's intrusion into the Ukraine in February 2014 and the ensuing annexation of the Crimea have been prompted by energy and geopolitical factors. The energy factor is that 50% of Russia's gas and oil supplies to the EU are piped through the Ukraine. It is in Russia's energy interests to make sure that the gas and oil pipelines transiting the Ukraine are well defended not only against sabotage but also against the Ukraine making use of the gas without paying for it. **16**

There is, however, a geopolitical dimension. The Ukraine has become a chess pawn in a grand chess game being played by the United States and the EU with Russia. At the heart of the Ukraine-Russia crisis is the EU's attempts incited and abetted by the United States to draw the Ukraine away from Russia into the EU and eventually into NATO, thus bringing NATO to the borders of Russia. Having failed to achieve their

aim, the EU supported by the US instigated internal strife in the Ukraine which ended with the ousting of the legally-elected president and eventually the annexation of the Crimea.

If the conflict between the West and Russia continues to escalate, an oil and gas embargo could be one of the sanctions that is considered against Russia. Even before the current tension with the West over the Ukraine, Russia was in the process of reorienting its energy posture to Asia in view of the growth in energy demand in that continent and the likely stagnation or decline of demand in Europe over the next few decades.

Opportunities for the West to hurt the Russian economy are limited, Russian President Vladimir Putin said in a TV interview on 17 April, 2014.¹⁷ Europe cannot stop buying Russian gas without inflicting pain on itself, and if the US tries to manipulate oil prices, the dollar will suffer. And whilst some oil supplies could partially replace Russian oil supplies to the EU, this will impact on the global oil price since replacement could only come from the Arab Gulf suppliers whose production is virtually committed to the Asia-Pacific region.

"If oil prices decrease in the global market, the emerging shale industry will die," Putin said. The US shale industry has boosted domestic production, but President Putin said that the so-called "shale revolution" was expensive and not quick to come. **18**

However, any disruption of Russian oil and gas supplies to the EU whether it is a result of EU sanctions against Russia or a blocking of the oil and gas pipelines transiting the Ukraine by the Ukrainian government or a decision by Russia to halt oil and gas supplies to the EU in retaliation for the sanctions, could add \$20-\$30 to the price of a barrel of oil.

It will be hard for the EU to turn its back on Russian energy – at least in the short term: 30% of the EU's natural gas imports and 35% of oil imports are currently from Russia. **19** And Germany's dependence on Moscow is even higher: the country sources 36% of its natural gas and 39% of its oil imports from Russia. **20** Since the biggest transport route for Russian gas runs through the Ukraine, a halt of exports to the Ukraine would also have consequences for the EU.

3-The Real Threat to the Price of Oil

The greatest threat to oil prices in the long term actually comes from the steeply-rising domestic oil consumption and a lack of diversification in the Arab Gulf countries. A precursor of this consumption is the subsidies which in 2011, jumped by almost 30% to \$523 billion, due mainly to increases in the Middle East and North Africa. **21**

This means that the Arab Gulf producers will have to cut their domestic oil consumption drastically or replace oil by nuclear power and solar energy in power generation and water desalination. Failing to do either would result in their relegation to minor crude oil exporters or, ceasing to remain oil exporters altogether by 2032 (see Table 2). This could send oil prices rocketing to \$200-\$250/barrel with an unimaginable impact on the global economy. To forestall such an eventuality, the

Gulf countries not only have to accelerate the diversification of their sources of income but also become smarter in their investment.

The diversification I am talking about is not industrialization because the Gulf countries could never be able to compete with the top industrial nations in the world. Nor does it mean investing in hotels, casinos and real estate. It means investing in food production projects in the Sudan for instance and also in thriving and futuristic industries around the world.

Table 2
Combined Current & Projected Production, Consumption & Export
of Crude Oil Exports in the Arabian Gulf Countries, 2010-2035
(mbd)

Year	Production	Consumption	Net Exports / Imports
2010	16.65	4.59	12.06
2011	18.70	4.77	13.93
2012	18.92	5.35	13.57
2013	19.07	5.99	13.08
2015	19.51	6.38	13.13
2020	20.90	9.64	11.26
2025	19.83	13.19	6.64
2030	18.55	17.06	1.49
2031	18.44	17.91	0.53
2032	18.33	18.81	- 0.48
2035	17.79	21.78	- 3.99

Sources: US Energy Information Administration (EIA), Oil Outlook 2013 / OPEC Annual Statistical Bulletin 2013 / BP Statistical Review of World Energy, June 2014 / Author's projections.

The world is already heading towards a future food shortage on a global scale. Food prices could in the future rival, if not, exceed those of crude oil. Why not then invest in the Sudan which has the land and the water resources not only to become the food basket of the Gulf countries but also a great source of food export revenues for them.

How High Could the Crude Oil Price Rise?

Were there to be a withdrawal of a substantial portion of Iraq's 3.3 mbd crude oil supply from the market, this could take global spare capacity dangerously close to zero, probably leading to a \$40-hike in the oil price to well above \$140 a barrel.

Also any disruption of Russian oil and gas supplies to the EU could add \$20-\$30/barrel to the oil price.

The Iraq conflict comes at a time when global demand is reaching an unprecedented level with the demand/supply deficit increasingly widening (see Table 3). Even with

Iraq's oil-export region untouched so far, the price of oil will continue to rise in the long run, simply out of fear and uncertainty. It is merely the fear of disrupted supply that causes the risk premium on oil to rise.

While uncertainty is currently the main driver of higher crude prices, what could make them soar to record levels is the threat posed to Iraq's oil production. Right now, Iraq accounts for 4% of the world's global oil production. That may not seem like a big percentage. But a complete loss of Iraqi production would spike the world oil price up beyond \$150/barrel in a heartbeat. **22**

Table 3
World Oil Demand & Supply (2013-2030)

	(mbd)							
	2013	2014	2015	2016	2020	2025	2030	2035
World Oil Demand	91.33	92.24	92.93	93.63	96.47	100.14	104.60	108.50
World Oil Supply	86.81	87.24	86.50	86.50	89.00	90.23	91.68	92.59
Non-OPEC	49.98	50.74	50.50	50.70	51.80	51.90	52.38	52.90
OPEC	36.83	36.50	36.00	35.80	37.20	38.33	39.30	39.69
Demand / Supply								
Deficit *	- 4.52	- 5.00	- 6.43	- 7.13	- 7.47	- 9.91	-12.92	-15.91

Source: OPEC: World Oil Outlook 2013 / IEA, World Energy Outlook 2012 / BP Statistical Review of World Energy, June 2014 / EIA, Energy Outlook 2012 / Author's projections.

*The demand/supply deficit is accounted for by stock changes, consumption of non-petroleum additives and substitute fuels. Otherwise it will be reflected in higher oil prices.

In the long term, however, the real threat to the price of oil comes from the steeply-rising domestic consumption in the Arab Gulf producers. Failing to curb drastically their oil consumption could lead to the total collapse of their oil exports with oil prices rocketing to \$200-\$250/barrel.

Even without any geopolitical pressure on the oil price, OPEC projects a nominal average price for oil of \$110/barrel over the period to 2020 rising to a nominal value of \$160/barrel by 2035 (equivalent to \$100 in real terms by that year). **23**

Oil Price Volatility on the Way?

Frequency analysis shows oil price volatility is periodic and repeats itself every 32 months (see Figure 12). From the mid-2000s, changes in oil price were marked by a single dominant frequency that peaked at 2.8 years. **24**

In a confirmation of the potential emergence of a long-term rhythmic pattern, oil price variance spiked again in April 2011, precisely 32 months after the last major round of volatility had topped out in July 2008.

It is coming up on 30 months since the now largely forgotten market turbulence of mid-2011. If oil price volatility is oscillating in a repeating two-to-three-year cycle, then we could expect to see another wave of instability in oil prices in late 2014 or early 2015.

Figure 12

Oil Price Volatility



Source: Courtesy of Kyle Anderson, Money Morning, August 6, 2014.

Conclusions

It is virtually impossible to forecast an accurate price of oil because of the many conflicting crosscurrents that affect the price.

Yet, I am suggesting that the price of oil could in the short term go to well above \$140/barrel if there was a withdrawal of a substantial portion of Iraq's oil production or a disruption of Russian oil and gas supplies to the EU. If, however, there was a complete loss of Iraqi production, the price could spike up beyond \$150/barrel.

In the long term, if the steeply-rising domestic consumption in the Arab Gulf producers continues unchecked, it could eventually lead to the total collapse of their oil exports sending oil prices rocketing to \$200-\$250/barrel with an unimaginable adverse impact on the global economy.

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Footnotes

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- 3 Mamdouh G Salameh, "**If Current Trends Continue, Saudi Arabia Could Cease to Remain an Oil Exporter by 2025**" (a lecture given to the EMEM Programme 2014 at the ESCP Europe University in London).
- 4 NATIXIS Oil Review 2014.
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- 17 That is what the Russian President Vladimir Putin's disclosed in his interview on 17 April, 2014 with RT TV.
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23 OPEC World Oil Outlook 2013, p. 5.

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