ASPO USA

PEAK OIL REVIEW

TOM WHIPPLE, EDITOR

Ray Long, Associate Editor

Association for the Study of Peak Oil & Gas USA

January 7, 2013

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1. Oil and the Global Economy

Oil trading was dominated last week by machinations in the US Congress and the prospects for the US economy. During the week, however, NY futures sustained the biggest weekly gain in three months on the euphoria surrounding the settlement of the fiscal cliff. NY oil closed Friday at $93.09 while Brent closed at $111.31. As several Gulf States tax crude in storage on January 1st, oil refiners lowered their inventories by 11 million barrels the week before last by delaying purchases and turning crude into products. Gasoline and diesel inventories rose by 7 million barrels largely offsetting the decline in crude stocks.

The glut at Cushing, Okla. continued climbing to a record 49.8 million barrels. The Seaway pipeline which will drain oil from Cushing to Gulf Coast refineries will double its capacity by using more powerful pumps shortly, hopefully reducing the excess inventory. In 2014 the capacity of the Seaway pipeline is expected to double again, solving the problem and perhaps reducing the WTI-Brent spread to normal.

The major financial firms expect Brent crude to continue trading around the $110 level where it has been for the past 18 months during 2013. The forecasters, however, recognize the growing number of problems in the Middle East and the relatively low level of spare capacity, suggesting that higher prices could ensue should there be limitations on exports during the year.

On Friday, oil prices increased a few cents a barrel on slightly better US employment numbers, but for the next few months, or perhaps years, the rancor in Washington over the debt ceiling and federal budgets are likely to dominate the economic news.

OPEC production slipped 110,000 b/d in December to an average of 31.4 million b/d, as demand to fulfill the needs of the winter heating season draws to a close. It has been unusually cold in the eastern hemisphere this year with average temperatures in China hitting 30-year lows.

China's economy ended the year in better condition. With the EU's economy contracting and US imports far from robust, the big question of 2013 will be whether China can sustain the high level of growth it has become accustomed to with lower exports and greater internal demand.

US natural gas futures fell for three days last week on forecasts of warmer weather across much of the US for the next two weeks. On Friday, however, the weekly inventory report showed higher-than-expected withdrawals. Inventories, however, remain about 12 percent higher than normal for this time of year. One of the key questions for 2013 is whether natural gas production, from fracked wells, will remain high as many believe these wells deplete very rapidly and the economics of fracked gas production has markedly reduced new drilling.

2. The Middle East in turmoil

Iraq: Anti-government protests increased last week as the demands for the ouster of the al-Maliki, Shiite-dominated, government continue to grow. According to protest organizers, the government is holding some 40-50,000 Sunnis, including-- numbers which the government denies. Calls for the prime minister's resignation also grew last week including some by the prime minister's Shiite rivals. Among the more bizarre calls for resignation came from the current head of Hussein's Baath party who has been hiding out, with a price on his head, since the US invasion 10 years ago. Demonstrators have been blocking the major trade route to Syria which could be enough to force elections unless the government resorts to violence to clear the protesters.

For now, the protesters are calling for release of Sunni women held on terrorism charges and the repeal of parts of the terrorism code that Sunnis see as being used against them; however voices calling for new elections are increasing.

The situation is further complicated by what many see as growing Iranian influence on the Iraqi government, the standoff with the Kurds over exploitation of northern oil fields, and the situation in Syria which could easily spill over into Iraq.

Although Iraq's oil exports expanded during the past year, they dropped by 10 percent in December as the Kurds refused to continue exporting through the northern pipeline and the general level of turmoil across the country increased. With western oil companies decamping for Kurdistan where the security situation and the opportunity to earn a profit is better, the prospects for multi-million b/d increases in Iraq's oil production over the next decade do not look that good.

Syria: There was little change in the past week. Government forces continued efforts to push back rebels from the Damascus suburbs and continue bombing civilian districts considered hostile. Rebel forces continued efforts to overrun government-held airfields to stop the bombing and cut off outside aid. For now neither side is making much progress and the fighting seems as if it could drag on for some time. Over the weekend President Assad made a "peace offer" that amounted to little more than calling on the rebels to give up and go home.

Assad's remaining strength comes from the disorganization of the rebels. Although nearly all the government's supporters realize the end is near, they can see no clear way of defecting to the rebel forces that does not put their lives and future welfare in even more danger than remaining in place.

Israel is becoming more concerned about the possibilities of prolonged chaos in Syria and is talking about building a 43-mile fortified fence along its border with Syria in the Golan. The Israelis say government forces have abandoned decades-old positions along the border in favor of Jihadists who are more interested in attacking Israel than fighting Assad. This just one more indication of the many problems that are likely to follow the collapse of the Syrian government.

Iran: There was little news on the nuclear standoff from Tehran last week. Iranian armed forces held a naval exercise in the Straits of Hormuz and shot off some missiles to emphasize just how easily it could block the straits. Tehran is mostly concerned with the end game in Syria these days and whether it has continued its support for Assad government too long to play any meaningful role in a post-Assad Syria. Iran's main concern is losing its direct access to Lebanon and Hezbollah which would be a major setback in the confrontation with

Israel. Tehran is making a major effort to cut access to subversive web sites on the internet while at the same time keeping enough of the internet to ensure that its economy can continue to function.

Sanctions on Iran continue which means Tehran has to get by on around 50 percent of normal export earnings. President Obama signed yet another bill further tightening sanctions.

Egypt: Foreign currency reserves now stand at $15 billion, enough to cover imports of oil, food, and other vital goods for another three months. On Sunday, the government reshuffled its cabinet to give the Islamists more direct control over key ministries. Currently pending is a $5 billion IMF loan that is seen a crucial to keeping the government solvent for a while longer. The loan however comes with important strings attached such as a major reduction of government subsidies for food and fuel.

The Egyptian pound fell 7 percent against the dollar during December increasing the costs of everything imported. Egypt's government is currently the world's largest importer of wheat which it sells to millions of its poor at subsidized prices.

Egypt's oil industry is caught in a downward spiral. Crude is being used to pay off foreign debts while oil companies must import finished products to keep the economy functioning. Foreign creditors are not being paid and are unlikely to be extending the state oil company much more credit. The country produces about 700,000 b/d about the same as its consumption. However, some of its crude must go to foreign oil companies under production sharing agreements.

Efforts to lower or remove fuel subsides elsewhere have usually backfired as rioters took to the streets protesting the price increases. Egypt is currently spending about $9.7 billion a year to import oil products, about $2.8 million more than it was spending a year ago.

The whole economic situation is clearly unstable. Foreign tourism has never recovered since the Arab Spring uprising. The opposition says the government has about six months before a complete economic collapse will occur. Some of the richer Gulf states will likely step in with assistance, possibly in the form of cheaper crude, but Egypt is a big country in a lot of trouble.

Quotes of the week

- "Each new gas field discovered in America is as rich in promise as it is in hydrocarbons. But if the country allows the potential benefits to dazzle or delude -- if it lets them lull the country into complacency about the other major challenges it faces -- we could find them providing not so much a shot of energy to U.S. growth as a shot of morphine to America's body politic, hiding the pain and clouding its vision as to what is truly necessary to take advantage of this potentially great moment in American history."

  - David Rothkopf, Foreign Policy

The Briefs (clips from recent Peak Oil News dailies are indicated by date and item #)

- **Israeli** and Norwegian energy companies say they encountered a significant amount of natural gas in an offshore Israeli field. The companies say it would likely be late February before it can delineate the full extent of the find. (1/5, #9)
- **Brazil's** output of oil and natural gas fell for the eighth straight month in November, with maintenance of offshore oil platforms run by Petrobras limiting production. Output fell 4 percent to 2.5 million barrels of crude and natural gas equivalent per day (boepd) from 2.61 million in November 2011. (1/5, #11)
- **President Chavez's** formal swearing-in for anew six-year term scheduled for January 10 can be postponed if he is unable to attend due to his battle to recover from cancer surgery, Venezuela's vice

president said. The comments were the clearest indication yet that the Venezuelan government is preparing to delay the swearing-in while avoiding naming a replacement for Chavez or calling a new election. (1/5, #13)

- **China** is experiencing unusual cold this winter with its national average temperature hitting the lowest in 28 years, as snow and ice have closed highways, canceled flights, stranded tourists and knocked out power in several provinces. (1/2, #11), (1/5, #14)
- The US drilling **rig count** fell by 1 unit during the week ended Jan. 4, with the total number of rotary rigs reaching 1,762, as reported by Baker Hughes. This compares with 2,007 rigs working in the comparable week last year. (1/5, #18)
- **ExxonMobil** will spend $14 billion to develop the Hebron oil field off the shore of eastern Canadian province Newfoundland and Labrador, a project it expects to yield 700 million barrels of oil. (1/5, #19)
- **Iceland** is opening its waters for exploration by energy firms, and involving the help of oil-rich Norway in the process, as it looks to make use of its energy resources and boost its fragile economy. (1/5, #21)
- Higher fuel prices suggest global sales of **electric vehicles** could increase at a rate of 40 percent for the rest of the decade. A 20-page report from green consultant Pikes Research said the global sale of electric vehicles could reach 3.8 million by 2020. (1/4, #15)
- Offshore driller **Transocean** will pay $1.4 billion to settle all federal civil and criminal claims relating to the 2010 Deepwater Horizon accident in the Gulf of Mexico. Transocean was the owner of the drilling rig that exploded in April 2010, killing 11 workers and triggering the largest offshore oil spill in U.S. history. (1/4, #16)
- The waning growth in **US electricity demand** reflects more than just increased energy efficiency, the erosion of domestic manufacturing and a lethargic economy. Changes in demographics have an impact. The steady migration of Americans from cooler to warmer states has cut electricity use because cooling a building requires less energy than heating one. (1/4, #17)
- As the new year begins, The Wall Street Journal asked **Adam Sieminski**, administrator of the US Energy Information Administration what he's forecasting for global energy markets. Mr. Sieminski predicts a big policy debate over energy exports this year, and sees Mideast and other potential global supply trouble spots key to global energy prices. (1/4, #18)
- A recent pipeline expansion has turned the former import point at Niagara, NY into a **net exporter** of US gas to Canada, creating renewed price volatility in the process as traders sort through the new market dynamic. (1/4, #19)
- The **US Senate** approved legislation allowing a natural gas pipeline to be built along existing highway right-of-way in Denali National Park. S. 302 would allow a gas line to be buried in the shoulder of the Parks Highway for the 7 miles that the road extends through the national park. (1/4, #20)
- The inauguration of the Tamar natural gas production platform heralds a new era for Israeli energy independence. Natural gas deliveries from the Tamar natural gas field are expected by April. (1/3, #6)
- As many as 40 international oil companies are expected to bid for offshore natural gas exploration blocks in **Lebanon's** sector of the eastern Mediterranean that lies north of major deep-water gas fields in Israeli waters. (1/3, #7)
- A possible shutdown of the upper **Mississippi River** between St. Louis and Cairo, Illinois, in the next several days could stop the transit of as much as 7.2 million tons of commodities worth roughly $2.8 billion during January. (1/3, #15)

- Oil production from **Alaska's North Slope** slid 6.5 percent in December from a year earlier as output from existing wells shrinks. Production averaged 582,150 barrels a day last month, down from 622,355 barrels in December 2011, the state tax division said on its website. (1/3, #16)
- **Japan's** new Prime Minister Abe has indicated he would approve the construction of more nuclear reactors. That's an about-face from the previous administration, led by the Democratic Party of Japan and Prime Minister Yoshihiko Noda, who announced in September its goal of zero nuclear power by the end of the 2030s. (1/3, #17)
- The **Ukrainian government** said it secured a loan from the Chinese government to back a program aimed to substituting natural gas with coal. Russian energy company Gazprom supplies about 60 percent of the natural gas consumed in Ukraine. Ukraine said recently it was cutting back on gas purchases from Russia despite a take-or-pay mechanism with Gazprom. (1/3, #19)
- **Iraq** has begun courting investors to build new pipelines from Basra to Jordan's Aqaba port, a necessary step toward diversifying its export outlets and meeting the demands of rising production capacity. The Oil Ministry has set a target of creating 1 million b/d of export capacity to Jordan. (1/2, #4)
- **Turkey's** position as a guarantor of energy security in Europe has been secured with the new TANAP gas pipeline, Prime Minister Erdogan says. Erdogan said an agreement signed in June between Turkey and Azerbaijan to build the $7 billion Trans-Anatolian Pipeline connecting the gas fields of the Caspian Sea with European consumers will greatly boost Turkey's strategic importance. (1/2, #7)
- The fiscal-cliff deal approved in the Senate included a $12 billion extension of a **wind-**power tax credit and other support for renewable energy, sparking opposition from House Republicans who said it was an example of the kind of government spending they wanted to cut. (1/2, #17)
- The slump in **European power** that has driven prices to record lows is showing no sign of ending as the region's second recession in four years curbs energy use. Electricity for the next year in Germany, Europe's biggest economy, will probably fall 9.2 percent in 2013, extending its 17 percent decline last year. (1/2, #19)
- **Russia's** crude oil and condensate output in 2012 climbed 1.1 percent from a year ago to a post- Soviet record as companies maximized supply to take advantage of an increase in prices. (1/2, #20, #21)
- **Yemen** resumed pumping crude through its main oil export pipeline on Monday after repairs, following repeated bombings. The Yemeni army launched an assault in the past few weeks using tanks and rockets on tribesmen blocking repairs to the Maarib oil pipeline, which was last blown up in November. (1/1, #5)
- Motorists in the US paid **record high prices** for gasoline in 2012, as severe weather and political tensions drove up the cost of fuel. The national average price of gasoline in 2012 was $3.60 a gallon, nine cents more than the previous annual record set last year. (1/1, #9)
- The **U.S. shale-gas revolution**, which has revitalized chemicals companies and prompted talk of domestic energy self-sufficiency, is attracting a wave of investment that may revive profits in the steel industry. At least five U.S. plants under consideration or being built that would use gas instead of coal to purify iron ore, the main ingredient in steel. (1/1, #10)
- The executive director of the Ground Water Protection Council praised a set of rules being proposed by **Alaska** regulators to oversee the process of hydraulic fracturing. "I would say that they are quite comprehensive and go into significant detail on protecting local groundwater or drinking water," Mike Paque said. (1/1, #11)

- **OPEC** will pocket a record of more than US$1tn in net oil revenues in 2012 as the annual average price for Brent, the benchmark, heads to an all-time high in spite of weak economic growth. The windfall will provide fresh capital to some of the world's largest sovereign wealth funds. (12/31, #4)
- **China's economy** has ended the year on a strong note after a gauge of its manufacturing sector rose to a 19-month high. The HSBC purchasing managers' index for December climbed to 51.5 from 50.5 a month earlier. (12/31, #13)

Commentary: Why Peak Oil Threatens the International Monetary System

(Click here to view this commentary, in its entirety, on the ASPO-USA website)

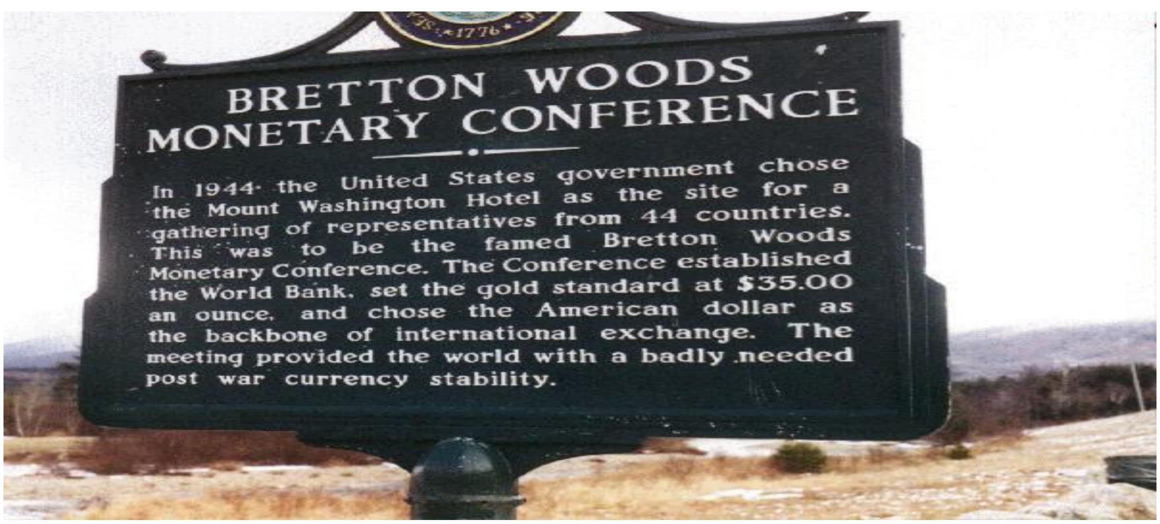
By Erik Townsend

(Note: Commentaries do not necessarily represent the position of ASPO-USA.)

Having spent the last several years of my life engineering investment strategies to profit from the inevitability of Peak Oil, I've become obsessed with understanding the ramifications of radically different energy supply dynamics on the global economy. There are many facets to this, some obvious and some not so obvious. So when ASPO-USA Executive Director Jan Mueller approached me at the end of this year's conference in Austin and asked for an article discussing the *less* obvious economic impacts of Peak Oil, I knew instantly that the topic should be the threat Peak Oil poses to the International Monetary System (IMS). This connection is critically important, but far from obvious.

I assure you that this story is very much about Peak Oil, but please bear with me, as I'll need to start by reviewing what the IMS is and how it came about in the first place. Then I'll explain the role energy has already played in shaping the present-day IMS, and finally, I'll tie this back to Peak Oil by explaining why rising energy prices could very well be the catalyst that will cause the present system to fail.

What is the International Monetary System?



At the end of World War II, many countries were literally lying in ruin, and needed to be rebuilt. It was clear that international trade would be very important going forward, but how would it work? World leaders recognized the need to architect a new monetary system that would facilitate international trade and allow the world to rebuild itself following the most devastating war in world history.

A global currency was out of the question because the many countries of the world valued their sovereignty, and wanted to continue to issue their own domestic currencies. In order for international trade to flourish, a system was needed to allow trade between dozens of different nations, each with its own currency.

A convention was organized by the United Nations for the purpose of bringing world leaders together to architect this new *International Monetary System*. The meetings were held in July, 1944 at the Mt. Washington Hotel in Bretton Woods, New Hampshire, and were attended by 730 delegates representing all 44 allied nations. The official name for the event was the *United Nations Monetary and Financial Conference*, but it would forever be remembered as *The Bretton Woods Conference*.

To this day, the system designed in those meetings remains the basis for all international trade, and is known as the *Bretton Woods System.* The system has evolved quite a bit since its inception, but its core principles remain the basis for all international trade. I'm going to focus this article on the parts of the system which I believe are now at risk of radical change, with Peak Oil the most likely catalyst to bring about that change. Readers seeking a deeper understanding of the system itself should refer to the *Further Reading* section at the end of this article.

Why is an International Monetary System needed?

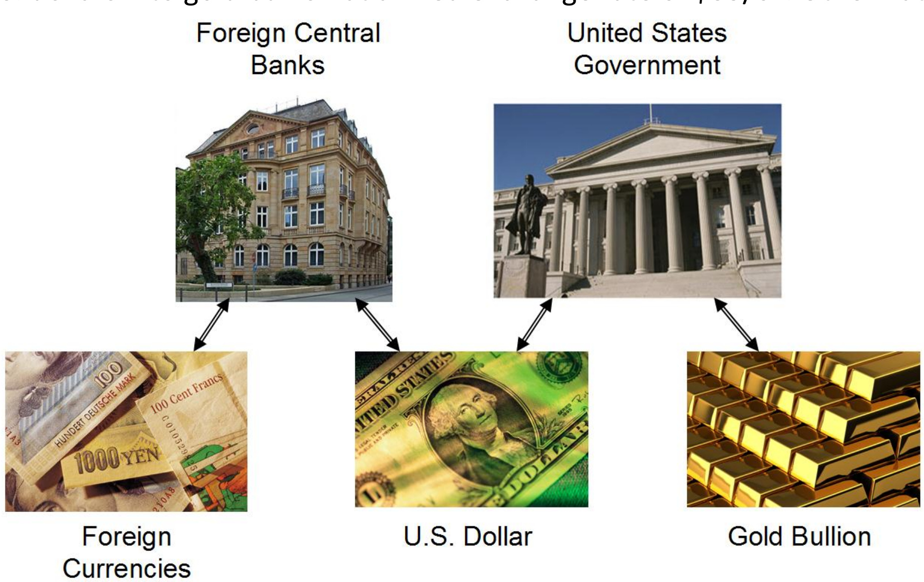
It simply wouldn't be practical for all countries to sell their export products to other countries in their own currencies. If one had to pay for wine from France in French Francs (there was no Euro currency in 1944), and then pay to import a BMW automobile in German Marks, then pay for copper produced in Chile in Pesos, each country would face an overwhelming burden just maintaining reserve deposits of all the various world currencies. The system of trade would be very inefficient. For centuries, this problem has been solved by using a single standard currency for all international trade.

Because a standard-currency system dictates that each nation's central bank will need to maintain a *reserve* supply of the standard currency in order to facilitate international trade, the standard currency is known as the *reserve currency*. At various times in history, the Greek Drachma, the Roman Denari, and the Islamic Dinar have served as de-facto reserve currencies. Prior to World War II, the English *Pound Sterling* was the international reserve currency.

Throughout history, reserve currencies came into and out of use through happenstance. The Bretton Woods conference marked the first time that a global reserve currency was established by formal treaty between cooperating nations. The currency chosen was, of course, the U.S. Dollar.

How does the IMS work?

The core of the system was the U.S. Dollar serving as the standard currency for international trade. To assure other nations of the dollar's value, the U.S. Treasury would guarantee that other nations could convert their U.S. dollars into gold bullion at a fixed exchange rate of $35/oz. Other nations would then "peg" their



currencies to the U.S. dollar at a fixed rate of exchange. Each nation's central bank would be responsible for "defending" the official exchange rate to the U.S. dollar by offering to buy or sell any amount of currency bid or offered at that price. This meant each nation would need to keep a healthy *reserve* of U.S. dollars on hand to service the needs of domestic businesses wishing to convert money between the local currency and the U.S. dollar.

By design, the effect of the system was that each national currency was indirectly redeemable for gold. This was true because each nation's central bank guaranteed convertibility of its own currency to U.S. dollars at some fixed rate of exchange, and the U.S. Treasury guaranteed convertibility of U.S. dollars to gold at a fixed rate of $35/oz. So long as all of the governments involved kept their promises, each nation's domestic currency would be as good as gold, because it was ultimately convertible to gold. United States President Richard Nixon would break the most central promise of the entire system (U.S. dollar convertibility for gold) on August 15, 1971. I'll come back to that event later in this article.

Triffin's Dilemma

In 1959, three years after M. King Hubbert's now-famous Peak Oil predictions, economist Robert Triffin would make equally prescient predictions about the sustainability of the "new" IMS, which was then only 15 years old. Sadly, Triffin's predictions, like Hubbert's, would be ignored by the mainstream.

The whole reason for choosing the U.S. dollar as the global reserve currency was that without a doubt, the U.S. was the world's strongest credit in 1944. To assure confidence in the system, the strongest, most creditworthy currency on earth was chosen to serve as the standard unit of account for global trade. To eliminate any question about the value of the dollar, the system was designed so that any international holder of U.S. dollars could convert those dollars to gold bullion at a pre-determined fixed rate of exchange. Dollars were literally as good as gold.

Making the USD the world's reserve currency created an enormous international demand for more dollars to meet each nation's need to hold a reserve of dollars. The USA was happy to oblige by printing up more greenbacks. This provided sufficient dollars for other nations to hold as foreign exchange reserves, while at the same time allowing the U.S. to spend beyond its means without facing the same repercussions that would occur were it not the world's reserve currency issuer.

Triffin observed that if you choose a currency because it's a strong credit, and then give the issuing nation a financial incentive to borrow and print money recklessly without penalty, eventually that currency won't be the strongest credit any more! This paradox came to be known as *Triffin's Dilemma.*

Specifically, Triffin predicted that as issuer of the international reserve currency, the USA would be prone to overconsumption, over-indebtedness, and tend toward military adventurism. Unfortunately, the U.S. Government would prove Triffin right on all three counts.

Triffin correctly predicted that the USA would eventually be forced off the gold standard. The international demand for U.S. dollars would allow the USA to create more dollars than it otherwise could have without bringing on domestic inflation. When a country creates too much of its own currency and that money stays in the country, supply-demand dynamics kick in and too much money chasing too few goods and services results in higher prices. But when a country can export its currency to other nations who have an artificial need to hold large amounts of that currency in reserve, the issuing country can create far more money than it otherwise could have, without causing a tidal wave of domestic inflation.

Nixon proves Triffin right

By 1970, the U.S. had drastically over-spent on the Vietnam War, and the number of dollars in circulation far outnumbered the amount of gold actually backing them. Other nations recognized that there wasn't enough gold in Fort Knox for the U.S. to back all the dollars in circulation, and wisely began to exchange their excess

USDs for gold. Before long, something akin to a run on the bullion bank had begun, and it became clear that the USA could not honor the $35 conversion price indefinitely.

On August 15, 1971, President Nixon did exactly what Triffin predicted more than a decade earlier: he declared *force majeure*, and defaulted unilaterally on the USA's promise to honor gold conversion at $35/oz, as prescribed by the Bretton Woods accord.

Of course Nixon was not about to admit that the reason this was happening was that the U.S. Government had abused its status as reserve currency issuer and recklessly spent beyond its means. Instead, he blamed "speculators", and announced that the United States would *suspend temporarily* the convertibility of the Dollar into gold. Forty-two years later, the word *temporarily* has taken on new meaning…

(Click here to continue this commentary on the ASPO-USA website)

Erik Townsend is a hedge fund manager based in Hong Kong.