KANOS CAPITAL MANAGEMENT, LLC

Third Quarter 2012 Investor Letter

Third Quarter Market Conditions

Our portfolios performed extremely well during the third quarter, primarily in August and September, as portfolio components benefitted from the anticipation and eventual September announcement of the Federal Reserve's new quantitative easing program. We believe world central banks will continue their easy money policies, leading to further benefits to properly aligned portfolios.

In general, the third quarter of 2012 was a study in contrasts in comparison to recent quarters. The helter-skelter, headline-driven manic price moves of past quarters transformed in July to a flat, gently rising stock market where volatility appeared to go on vacation in August and early September along with most Europeans and many Americans. In fact, "spot" volatility dropped to multi-year lows during August/ September, as represented by the iPath VIX Short-Term Futures Exchange Traded Note as displayed below:

Of course, the seminal event of the third quarter was the announcement by the US Federal Reserve (the Fed) of "QE3" – the latest incarnation of money creation designed to jumpstart the US (and world) economy and job growth. The signaling of QE3 and easier monetary policy from the European Central Bank (the ECB) had laid the groundwork during the summer for the eventual September policy announcements, and the anticipation of these new monetary policies certainly helped dampen worldwide stock

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market volatility, although bonds, after hitting all-time low yields in mid-summer, exhibited more volatility than in the recent past as central bank policies led to more uncertainty as to the direction of longer-term bond yields.

July showed some residual up-and-down action, with the S&P 500 index ending the month up slightly. Our portfolios suffered during the month as precious metals prices (and metals stocks) revisited their June lows at the end of the month, although energy prices rebounded, as did energy stocks. In fact, energy stocks were the best performing sector of the S&P industry sectors, gaining just over 4%. Telecom, utilities and consumer staples stocks also outperformed, while materials, consumer discretionary and financials underperformed. Bonds continued their 2012 outperformance, reaching their highs of the year in mid-July before backing off.

August was quite different from July. Gold broke out from its summer trading range as the August Fed meeting seemed to indicate that the economy and job market were not recovering as well as the Fed had hoped, leading them to indicate that more monetary accommodation might be forthcoming soon. The US dollar index fell from its mid-July high, and Treasury bonds slumped during much of August although they regained some strength going into September. Stocks rose during much of the month, led by technology, consumer discretionary, financial and materials stocks, while telecom and utility stocks were significant losers. Much of the month was spent anticipating of the results of meetings of the Fed, the ECB and the anticipated form and scale of future monetary easing.

September contained a number of "trigger points" that led to the mid-month explosion upward of stock and commodity prices. The ECB met and decided to implement "unlimited" buying of the bonds of countries requesting aid; this buying would be in concert with the European Stability Mechanism (ESM) where countries ask for aid, subject themselves to conditions imposed by the ESM, and the ECB would buy the country's bonds. This move had been signaled in June, but the announcement by the ECB about unlimited bond-buying, followed less than a week later by the German Constitutional Court ratifying the ability for Germany to participate (and anchor) the ESM, led to further gains in European bonds (especially those of the large troubled economies of Spain and Italy) and European stocks. Finally, after further signs of a weakening US economy and decelerating US job growth (highlighted by a very weak September job growth report), the Fed decided to declare a new monetary easing campaign, designed to be flexible in size and duration but to be in effect <u>even after evidence of stronger growth is observed</u>. The markets took the news as a "garden hose" of continuing liquidity, and assets that benefit from a debased US dollar rallied: gold jumped another $40, and closed the month at $1,775/oz. Silver broke though the $34/oz top of its recent range and almost reached $36/oz before ending September at $34.56/oz. WTI crude oil, buoyed by renewed unrest in North Africa and the Middle East, rose above $100/bbl on September 14th after the Fed announcement but reacted strongly to the continued poor economic results, closing the month at $92.06/bbl after trading under

$89/bbl in late September. The US Dollar Index, already weaker from poor US economic reports, dropped below 79 after the Fed announcement, showing the dollar's weakness against the world's currencies, and the index closing the month under the psychologically important 80 level at 79.94. Stocks continued to rise during the month, with energy, materials, healthcare and financials showing strong gains, while utilities, technology and consumer staples underperformed. Long-term bonds were weak during the month, with the Treasuries dropping to four-month lows, before rallying near the end of the month; the 10-year Treasury ended September with a yield of 1.65% and the 30-year ended at 2.82%.

Precious Metals

Precious metals rebounded strongly during the third quarter, leading the financial markets, as silver gained approximately 25% and gold rose more than 10% for the quarter, after retesting their May lows during July. The precious metals mining stocks did even better, rising more than 20% as represented by either the GDX (large precious metals miner ETF) or the HUI (precious metals mining index). Of course, the reason for the outperformance was the continued signaling of additional monetary easing by the ECB and the Fed (and to a lesser extent the Chinese government/central bank, the Japanese Central Bank, and the Bank of England) and the continuing weak economic results reported throughout the summer. Larger miners tended to outperform as they reaped the uplift in prices from their current mines while smaller miners rose less due to their need to raise capital before realizing higher metals prices. A surprising result of the quarter was rising copper prices which had been hurt during the summer by the fear of a Chinese economic "hard landing"; prices, however, bottomed at the beginning of August and then climbed strongly during much of September, adding almost 10% – possibly signaling that China may not be heading for as hard an economic landing as many people think. Store of value considerations, which are traditionally associated with precious metals, may also be driving copper prices.

Both the euro and Swiss franc fell to new record lows against gold during the last week of September, driving gold priced in euros to an all-time record high of €1,380/oz on 9/28/12 and gold priced in Swiss francs to ₣1,666/oz, while gold priced in dollars closed at $1,783/oz, the highest monthly close since mid-2011.

Energy

Energy prices rallied during much of the third quarter off the bottom that was established in late June. Crude oil prices rose in July due to the anticipation of further monetary easing and continued to rally through most of the third quarter on the same concerns, coupled with geopolitical concerns in the Middle East and supply disruptions in the Gulf of Mexico (hurricane) and North Sea (strikes and maintenance). Natural gas also rallied during much of the third quarter driven by warm temperatures during July/August and early cold indications in September.

Bonds

As chronicled above, bond prices moved up in yield (down in price) during much of the third quarter. Easing credit concerns out of Europe coupled with the first evidence of some inflationary concerns drove yields up to four month highs during early September. European bonds rallied quite a bit from their depressed prices during the quarter as did US and European high-yield bonds, which tend to follow the direction of equities. Mortgage bonds also outperformed Treasuries as people anticipated that Fed action might incorporate buying of mortgage securities (which in fact proved to be the case when the Fed announced QE3 in mid-September).

Other Markets

Most international equity markets rallied during the third quarter, led by the markets that had suffered the most earlier in the year: Egypt (+25.0%), Greece (+22.2%), India (+14.0%), Germany (+13.3%), etc. In general, African and European markets performed the best, while many Middle Eastern markets and some Asian markets (Japan -1.5% and Vietnam -8.5%) underperformed. The Dow Jones World Index, ex-US, gained 6.7% outperforming US markets in aggregate. Global industries that performed best were mortgage finance, precious metal/gold mining, internet and biotechnology. The industries that performed the poorest included alternative fuels, electronic office equipment, alternative electricity and renewable energy equipment.

International debt markets, like most international equity markets, were higher after the ECB and European governments moved toward a more comprehensive safety net. This monetary policy assurance allowed investors to move into more risky bond investments and away from safe haven buying observed earlier in the year. As an example, Italian 10-year bond yields were down 11.9% in yield [higher in price] (to 5.028%) during the quarter and Spanish 10-year yields were down 5.9% in yield (to 5.975%) while US 10-year Treasury bond prices were down 1.3% during the quarter, ending with a yield that rose to 1.637%.

Going Forward

As stated above, we believe that the world's central banks will continue to ease in order to assist their primary constituents: the banks. While US banks are supposed to be in relatively good shape, they are still deleveraging and shrinking via divestment or write-downs of distressed assets.

We believe the ECB will have to act in the near future, because European banks are still for the most part in precarious shape. The fragility of European banks is compounded, of course, by the poor condition of European economics. As Grant Williams in his "Things That Make You Go Hmmm…" blog explores, the southern European countries are almost certainly in far worse condition than the current numbers express, because both the central and local governments have almost certainly overstated the value of their assets and understated (and hid some of) their liabilities. Thus, in aggregate, European government debts are probably 10-20% in excess of known sovereign debt amounts, meaning the amount of support funneled their way will continue to grow. Thus, we really don't know the amount that will be needed to stabilize European finances. Couple this with the economic uncertainty which spawned the Fed's QE3 (or "QEternity" as some have called it), and it appears to us that easing will have to continue for years.

Can the US recover from this current economic malaise any time soon? We are frequently asked this question, along with the associated "if you could make the decisions, how would you solve the problems in the US economy right now?" We believe there are solutions, which admittedly are politically difficult to enact, but must occur, and are probably best summed up by financial sages George P. Shultz, Michael J. Boskin, John F. Cogan, Allan H. Meltzer and John B. Taylor in their joint 9/16/2012 Wall Street Journal Op-Ed article titled "The Magnitude of the Mess We're In." Their last paragraph states:

> **"The fixes are blindingly obvious. Economic theory, empirical studies and historical experience teach that the solutions are [1)] the lowest possible tax rate on the broadest base, sufficient to fund the necessary functions of government on balance over the business cycle; [2)] sound monetary policy; [3)] trade liberalization; [4)] spending control and entitlement reform; and [5)] regulatory, litigation and education reform. The need is clear. Why wait for disaster? The future is now."**

We couldn't agree more, and we believe that the government needs to get to work as soon as possible.

Our thoughts on the markets follow:

Equities

Third quarter results from US companies are being reported in mid-October, and although they were expected to be weak, there have been some major misses by some widely held companies that have caused stock prices to weaken during the month.

We have a hard time believing that profits yet to be reported and companies' outlooks will drive stock prices higher, and the prevailing gloom in the market in October could last quite a while, especially with the "fiscal cliff" (automatic tax rate hikes and government spending cuts that take effect unless Congress acts) and the debt ceiling (the US is approaching the total it can borrow [again], and Congress must act at some point to raise the ceiling or the US will not be able to fund its budget deficit) deadlines approaching in January 2013. We believe things could get very ugly in the markets since the apparent "efficacy" of QE3 seems to have already faded from the stock market.

However, in spite of current and possible future weakness, there is the possibility that stock prices finish the year strongly in November and December due to three main forces: 1) continuing (and possibly increasing) monetary stimulus by the Fed and the tailwinds that this stimulus typically gives to the stock market over time; 2) the resolution of the election – regardless of the winners, the knowledge of who will be president, how Congress will be composed and how Congress will probably tackle the fiscal cliff and debt limit deadlines – could lead to some buying in the stock market; and 3) the underperformance by many large investment managers and hedge funds could drive them to buying to try to build their results by year-end.

Precious Metals

Precious metals have been uncommonly volatile this year, as changing expectations for monetary stimulus have impacted precious metals prices dramatically in the spring, summer and now in October. QE3, announced on September 13th, pumps more liquidity into the banking system and raises the monetary base, allowing banks more "monetary fuel" to support strong capital positions and continue lending to keep the economy from going into reverse.

And the Fed is trying to promote higher asset prices through their policies. This involves lowering interest rates to make borrowing to buy assets more attractive and the removal of "safer" Treasury and mortgage securities, designed to push investors to buy riskier assets like stocks, houses, etc. As Chairman Ben Bernanke said in the Fed's press conference after announcing the latest round of quantitative easing:

> CHAIRMAN BERNANKE. "…this is a Main Street policy, because what we're about here is trying to get jobs going. We are trying to create more employment, we are trying to meet our maximum employment mandate, so that's the objective. Our tools involve—I mean, the tools we have involve affecting financial asset prices, and that's—those are the tools of monetary policy. There are a number of different channels—mortgage rates, I mentioned other interest rates, corporate bond rates, but also the prices of various assets, like, for example, the prices of homes. To the extent that home prices begin to rise, consumers will feel wealthier, they'll feel more disposed to spend. If house prices are rising, people may be more willing to buy homes because they think that they'll, you know, make a better return on that purchase. So house prices [are] one vehicle. Stock prices—many people own stocks directly or indirectly. The issue here is whether or not improving asset prices generally will make people more willing to spend. One of the main concerns that firms have is there is not enough demand, there's not enough people coming and demanding their products. And if people feel that their financial situation is better because their 401(k) looks better or for whatever

> reason, their house is worth more, they are more willing to go out and spend, and that's going to provide the demand that firms need in order to be willing to hire and to invest."

What Bernanke is saying is that they are trying to get people to borrow money from banks and buy assets, driving up the price and getting others to do the same thing. They are promoting higher asset prices and implying (but not saying) that they want more inflation, and by their actions, a lower dollar (since they are creating more dollars). Obviously, the Fed's actions should help precious metals prices move higher since they are portable assets that help protect purchasing power and are easier to buy, sell and own than houses, for example.

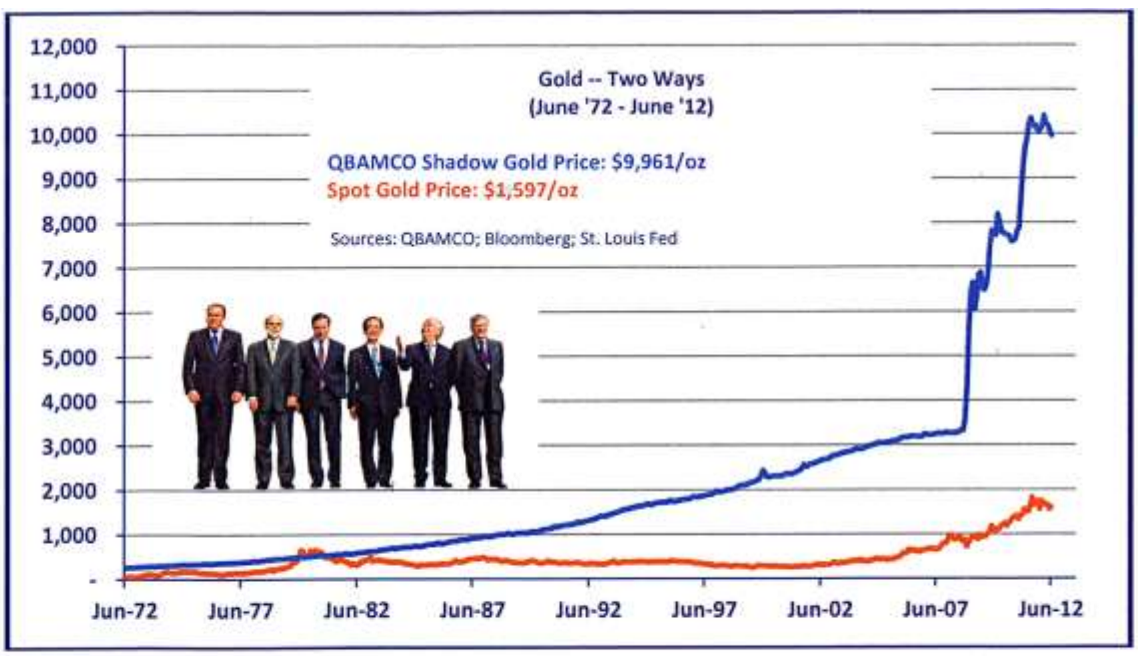
However, the most powerful continuing argument for owning gold is the prevalence of **negative real interest rates.** If a 10-year Treasury bond only pays you 1.80% but inflation is running between 2.1-2.8%, then your capital is losing 1% of its purchasing power each year, and at the end of the ten years, your capital will be returned with less than 90% of its purchasing power – poor investing if conditions prevail. Precious metals, which pay no interest, have historically held their purchasing power over time much better than most other asset classes, but underperformed from 1982 – 2001 due to the real returns available in other asset classes (most notably stocks, but also bonds and real estate), which outshone the attractiveness of holding metals. However, since the crash of 2008/2009, metals have performed as well or better than other asset classes, and, as the threat of deflation lessens in the future, precious metals should benefit even more than they have during the 2000s.

Lee Quaintance & Paul Brodsky of QB Asset Management Company have done some very interesting work on valuation metrics for gold, and we find one of their methodologies very compelling. In their July 2012 report titled "Real Return Investing," they reintroduce the methodology used by the United States and Allied countries under the Bretton Woods System in effect from 1945-1971 in which the world's gold was convertible into US dollars at the price of $35/oz (and vice versa). This led to a relatively stable post-war monetary regime until the US started to increase the amount of dollars in the late 1960s/early 1970s and countries (most notably France) decided to convert their dollars into gold at such a rate that the US suspended gold convertibility.

The price of gold was determined by dividing the US Monetary Base (US dollar currency in circulation plus bank reserves held at the Fed) by the US Government's gold holding (in ounces). The US held most of Europe's gold at this point, as countries tried to sequester it from capture by the Axis nations during World War II. When the US Monetary Base amount was divided by the ounces of gold held by the US, the price for convertibility was calculated to be $35/oz; this is what Quaintance and Brodsky call the Shadow Gold Price, which reflects the intrinsic value of gold or the "credit-adjusted purchasing power of gold to US dollars." President Nixon "closed the gold window," thereby putting a halt to convertibility as the US increased its Monetary Base, increasing the amount of "high-powered" dollars supplied to the US banking system. This increase in money supply juiced the US economy under Nixon but led to rising inflation. It also led to increased investment in gold, which rose from its pegged value of $35/oz to a high of over $850/oz by 1980, a mere 9 years later (see lower left corner of the chart below from QB Asset Management). Only in 1980 did the gold price actually trade over its intrinsic value as calculated by the Shadow Gold Price.

Since 1980, gold has traded far under the Shadow Gold Price as stocks, bonds and real estate offered income-producing real returns during the 1981-2000 period. However, the easy money, low interest rate policies of Alan Greenspan and the subsequent popping of the Stock Bubble in 2000 led to a renewed attractiveness of gold, and the large increases in the Monetary Base from quantitative easing starting in 2008 have further increased gold's attractiveness.

Using the Bretton Woods gold value calculation formula to compute the Shadow Gold Price in June 2012, the large increases in the Monetary Base have pushed the Shadow Gold Price to **almost $10,000/oz** in June 2012, versus roughly $1,600 for the spot price of gold, one can see the large historical undervaluation on the chart below.



Said another way, the spot price of gold at roughly $1,600/oz is only 16% of the Shadow Gold Price. If this historic relationship were to move back to 1:1 parity, an investment in gold would yield returns in the future of over 500%!

Economic conditions today resemble the 1970s in many ways: in 1973-74 and again in 1978-80, real US Treasury yields were negative (like they are today), and gold rose sharply in price during those periods. We believe precious metals prices will again rise sharply, due to the similar fiscal and monetary set-up. In addition, both the Fed and US Government are playing a dangerous game assuming that investors will continue to buy Treasury debt at negative real yields and keep their capital in US dollars, even in the face of a lack of any real progress in solving our ongoing deficit spending and a continuing increase in the supply of US dollars. If investors in the Treasury markets get spooked about any chance of default or delay of Treasury payments, capital could flee the US bond market and US dollar domicile, causing rates to rise and inflation to flare up. It is not an idle threat; during the August 2011 intra-governmental fight over whether to raise the US debt ceiling (which led to the first downgrade of US Treasury debt in decades), according to Bloomberg, "David Plouffe, Obama's chief political adviser at the White House, dismissed as 'inconceivable' the idea that the government would choose between paying investors and soldiers. 'The notion that we would just pay Wall Street bondholders and the Chinese government and not meet our Social Security and veterans' obligations is insanity, and is not going to happen,'" Plouffe said at a Bloomberg Breakfast [July 6, 2011]. It is almost unbelievable that a White House official would state that the US might not pay bondholders an interest payment; if debt market participants see more hints in the future that point to uncertainty around US government debt payments, there will be a real risk of money exiting the US bond market and the US dollar, which would lead to much higher precious metals prices.

Finally, investment "heavyweights" Bill Gross of Pimco, who runs the largest bond portfolio in the world, and Ray Dalio of Bridgewater Associates, who runs the largest macro hedge fund, both publically advocated owning a significant amount of gold in investment portfolios during the third quarter. Gross, in his October commentary called "Damages", states

> **"So …[h]ow can the U.S. not be considered the first destination of global capital in search of safe (although historically low) returns?** <u>Easy answer</u>: It will not be if we continue down the current road and don't address our "fiscal gap." IF we continue to close our eyes to existing 8% of GDP deficits, which when including Social Security, Medicaid and Medicare liabilities compose an average estimated 11% annual "fiscal gap," then we will begin to resemble Greece before the turn of the next decade. **Unless we begin to close this gap, then the inevitable result will be that our debt/GDP ratio will continue to rise, the Fed would print money to pay for the deficiency, inflation would follow and the dollar would inevitably decline. Bonds would be burned to a crisp and stocks would certainly be singed; only gold and real assets would thrive within the 'Ring of Fire.'" [Emphasis by the author; the "Ring of Fire" refers to an earlier chart where Gross groups Spain, Greece, France, Japan, the UK and the US with a ring of unsustainable budget deficits.]**

Dalio, in a CNBC interview in late September, suggests gold "should be part of everybody's portfolio" as he explains the reality of the endgame of fiat monetary systems. When asked about Warren Buffett's distaste for gold, he opines **"I think he is making a big mistake."** ***[Emphasis mine – KS]*** According to Pierre Lassonde/World Gold Council, gold as a share of global investment allocations peaked in 1980 at over 14%, hit its trough in 2000 at approximately 0.5% and in 2011 is still only about 2.5% of world investment allocations. If gold's share doubled (to only 5% of global investments), the 66,000 tonnes required would be the equivalent of **23 years of production at current levels**. Thus, we believe investment funds are historically underinvested in precious metals and a continuation in the bull market will force institutional buying in the future.

Energy

We have been struck by the recent resiliency of oil prices, which in many past years have been crushed by the end of September as the end of summer demand, refinery maintenance and the end of hurricane season typically exert pressure leading to seasonal price weakness. Adding to the situation that the Obama Administration has shamelessly leaked rumors that the Strategic Petroleum Reserve may be tapped to cap high prices and that Saudi Arabia has given recent assurances that prices are too high and they will be ramping up production to drop prices, oil prices could be much lower.

So why are oil prices (and thus gasoline prices) stubbornly high? In our minds, there are two main reasons: 1) Middle East political tension and 2) supply and demand. The Middle East is a long-standing (and convenient) excuse; continued saber-rattling by both Israel and Iran, coupled with escalated fighting in Syria (spilling occasionally into neighboring Turkey and Lebanon) and protests and attacks on US embassies in Libya, Egypt, Yemen, etc. all put angst into the oil markets. The supply and demand piece of the puzzle is harder to understand: Isn't China supposed to be entering a hard (economic) landing and increased US oil production pushing America toward energy independence? A recent paper by Leonardo Maugeri of the Kennedy School at Harvard ("Oil: The Next Revolution", June 2012) argues that supply should be more and more plentiful going forward. Our view, however, is more sanguine, and we have in the past shared our concerns about the ability to continue to supply the world with plentiful crude oil **at prices world consumers are used to paying.** We believe a cogent explanation that parallels our past explanations for skepticism about cheap plentiful future oil supplies was offered by Dennis Gartman in his 9/14/2012 newsletter. It was written by one of his subscribers, who wanted to remain anonymous. We think that the points presented are relevant and important to remember, and we have reproduced his comments in part below:

> *Dear Dennis*
> *I read your piece today re: Maugeri's paper.*
> *Unfortunately this gentleman is dead wrong, just as he was when he wrote similar papers in 2009, 2006, 2004 and 2003 (we know what happened to oil prices in each of those years). He commits two fundamental errors: he does not distinguish between resource size and the rate at which it can be developed and, for some*

reason, he chooses to assume that the global decline rate for oil production is 2 per cent per annum whereas most people (including the IEA) peg it at around 5 or 6 per cent per annum. The world produces and consumes about 80 million bpd of oil (excluding renewables) so, if the decline rate is 2 per cent per annum, we have to bring on stream 1.6 million bpd of new production every year to offset it. If the decline rate is 6 per cent per annum we have to bring on stream 4.8 million bpd of new production to offset decline. That difference of 3.2 million bpd per annum is the difference between feast and famine, between glut and shortage.

[Previously]… we have remarked how many observers had started to feel that the world had entered a new era of plentiful supplies of crude oil that would inevitably lead to lower prices. Various experts expounded this view in numerous op-ed pieces. June saw the publication of a paper written under the aegis of Harvard University by a former ENI oil executive that purported to provide a detailed analysis of why the coming decade would see the world awash in cheap oil. (A little Googling reveals this writer was expounding broadly the same viewpoint in articles published in 2009, 2006, 2004 and 2003.) This most recent paper has been cited by various commentators who are now persuaded and want to persuade others that some corner has been turned in terms of the supply constraints for liquid fuels that have manifested themselves during the past decade - most recently among them, the chairman of the asset management arm of a major investment bank…

The thrust of the argument is that sustained high prices and the application of new technologies have opened up vast new resources for exploitation – in particular, the Canadian tar sands, the pre-salt fields off shore of Brazil and, above all, tight oil and oil from shale source rocks here in America and eventually elsewhere in the world. The development of these resources, so the analysis goes, will provide the world with an overabundance of supply for years, if not decades to come. This now is the received wisdom among many, if not the majority of oil market observers and self-appointed opinion makers. Unfortunately however the analysis is fundamentally flawed. How so? In a very basic way: to quote one industry insider, ***oil analysts are good at adding but terrible at subtracting. [Emphasis ours – KS]*** *Analysts seem to forget that shortly after coming on stream every oil well goes into decline, it achieves a maximum level of production and thereafter inexorably declines at an exponential (or mathematically similar) rate. To offset this decline, new wells must be drilled in order to maintain production. But eventually the oilfield in question is fully developed and its production too starts to decline. And, by extension the same is eventually true of whole oil producing regions. For example, Mexico's oil production has been in decline since 2004 and production from the North Sea has been in decline since 2000. Indeed, the majority of oil producing regions are today experiencing declining rates of production which can vary anywhere from the low single digits in the giant fields of the OPEC countries to the mid-teens in off shore plays like the North Sea. It is generally agreed that the global average decline rate of oil fields in production today is close to 5 per cent per annum. The* *world currently consumes about 90 million bpd of liquid fuels. The last 10 million bpd comes from bio fuels, volumetric processing gains and tar sands. The other 80 million bpd comes from oil wells whose production on average declines by about 5 per cent per annum. That means that, to produce enough oil just to meet current levels of demand, each year the industry must bring on stream 4 million bpd of new production. That is the equivalent to a new Saudi Arabia every 2 and a half years. Any growth in demand requires an additional increment of new supply.*

It is against this relentless decline in existing levels of production that these new sources of supply must be measured. For example, the most optimistic forecasters posit that by the end of this decade liquids production from shale source rocks and tight formations in the US could reach 4.5 million bpd from essentially zero five years ago. Large as this increment sounds (and for the US it is undoubtedly a major new contributor to the country's oil supply) ***it will account for less than 10 per cent of the new supply needed globally to offset the decline in existing oil production. [Emphasis ours – KS]*** *And it will come only at a massive capital cost in oil wells and infra-structure. It has been estimated that to achieve its full potential some 45,000 wells will need to be drilled in the Bakken alone, wells that typically cost $10 million each. But the real issue is again high rates of decline which in fields like the Bakken can be as high as 60 or 70 per cent. That means to offset production decline from mature conventional oil fields we are dependent on developing unconventional fields which have decline rates an order of magnitude higher. If the industry was on a treadmill, running in order to stand still, it is now on a treadmill that has gone berserk. Moreover, with growth in demand adding to the required supply base, the level of production subject to decline only grows with time. So new production has to meet demand growth and supply decline which itself grows because of a larger base and an accelerating decline rate.*

And that is not the end of it. Much of the new unconventional production being touted as oil is not oil at all, it is natural gas liquids the majority of which (ethane) is not even a liquid and the rest (propane, butane) cannot be used as refinery feedstock either.

The economics of shale oil production is also more marginal than generally believed. While it has been suggested by some experts that producing oil from these fields is akin to a manufacturing operation with little or no geological component, the evidence of late suggests otherwise. Contrary to earlier optimistic assessments, the productive potential within the Williston Basin (the geological formation that encompasses the Bakken and its associated fields) now appears to be quite heterogeneous and there is much evidence to suggest that the low hanging fruit has already been gathered. ***It is noteworthy in this context that Montana's oil production is already in decline: production from the section of the Bakken lying within that state (and which was developed first) could not be maintained let alone expanded. [Emphasis ours – KS]*** *Operators in the Bakken generally have been reducing rig utilizations citing unfavorable economics even with WTI at $90 - 100 per barrel. The latest rig count data show a steady decline* *in North Dakota such that the year over year increase in rig count has dropped to only 3 per cent...*

In part this is due to the current high cost of the oil services upon which these unconventional wells are particularly dependent and operators temporizing in the hope of lower costs. But with the treadmill effect on operations requiring ever more drilling to maintain production and growth in production, it is hard to see why these costs are going to fall. Indeed the contrary seems more likely given the manpower shortages which are seen developing across this industry as the generation of employees who entered it in the 70s reaches retirement age. As the chairman of Schlumberger noted earlier this year: "The 16 years of low oil prices after 1986 meant that little recruiting was done, and many earth science and petroleum engineering faculties closed…while strong efforts were made to recruit in the 2000s, the effect of the retiring generation still had to hit. By 2015 not only will that effect have occurred, the number of inexperienced industry professionals will have increased. In the light of the challenges that the industry faces, this workforce will be a major headache."

Furthermore, regulation of the industry and its use of fracking is only going to intensify with time. That and securing access to the large amounts of water needed for fracking and then disposing of that water safely after use will all add to a growing burden of costs.

As to the development of shale hydrocarbons elsewhere in the world the same issues apply with the added qualification that in all sorts of respects the conditions for successful development are less favorable than in North America. For a start, the US seems uniquely blessed geologically. Whereas shale deposits here are relatively shallow and uncomplicated, deposits elsewhere in the world occur at greater depths and in more complex formations. Greater depth means higher drilling costs and more complexity means more dry wells. Secondly, America has a very large and established domestic oil services industry. Such is not the case anywhere else in the world which will add further to already higher costs. Thirdly, this country has a large existing infra-structure of pipelines and terminals to transport oil and gas. Finally, as it relates at least to Europe, environmental opposition to the development of oil and gas is much greater than it is in America. France which appears to have some of the best prospects has already passed legislation banning fracking.

Elsewhere in Europe where drilling has proceeded, results have been rather disappointing. In Poland which has the next best potential after France and where the government is actively encouraging the development of shale gas deposits, results to date have been disappointing. Exxon recently announced it was abandoning its attempts to develop shale gas there. Even in America some of the more optimistic forecasts for the potential for shale oil production now look unrealistic. The Bakken field, Eagle Ford and the Permian will make very meaningful contributions to US domestic oil production. However, other shale oil plays look to be more marginal and less significant in their potential. US dependence on oil imports will certainly fall because of the development of shale *and tight oil but the idea that global oil prices are going to be driven to $60 a barrel by a flood of oil that costs $100 to produce is just silly.*

And what about those other sources of new supply like the Canadian tar sands and the giant off shore fields of Brazil?

Canada's tar sands contain vast amounts of hydrocarbons, of that there is no doubt. The problem is extracting them which is more akin to a mining operation than traditional oil industry practice. While the tar sands hold more recoverable oil than Saudi Arabia, it will take hundreds of years to extract it. What matters in the context of a world needful of new sources of supply is not how much oil is there but the rate at which it can be produced. Even with the massive investment now taking place in developing the tar sands, growth in production there is relatively modest. On current plans, oil production from the tar sands will climb by about 125,000 bpd per annum over the next ten years - a tiny fraction of the growth needed to offset production declines elsewhere in the world. And this growth will only occur with high oil prices to support it.

As for Brazil, we noted in our letter last month that Petrobras is struggling to maintain its current levels of production. It faces a huge task in developing the pre-salt fields that lie more than 150 miles off shore, below 7000 feet of water and another 16000 feet of seabed, much of it a salt stratum which poses a unique technological challenge. These challenges are not made any easier by the fact that Petrobras has to conform to the political aspirations and goals of the government. Whilst the shares of Petrobras trade publicly it is nevertheless more like a national oil company than an IOC. Being a national oil company means political interference in the way a company operates and what its role is, not the least of which is to provide a convenient piggy bank to finance social programs unrelated to the production of oil. Pemex and PDVSA are perfect examples of national oil companies that have been hamstrung by excessive politicization of their activities. Petrobras risks ending up in the same place and the development of Brazil's oil and gas industry could suffer the fate of unfulfilled potential that is seen today in Mexico and Venezuela. Ironically, high oil prices only intensify the pressures of resource nationalism that favor state monopolies at the expense of the IOCs. Perhaps Petrobras can avoid the fate of Pemex and PDVSA but timely development of this new frontier hinges on that being the case. The list of efficient state monopolies isn't lengthy.

As if to underline the foregoing observations, Petrobras just announced its first quarterly loss in 13 years, not a good omen for a company charged with executing the world's largest non-governmental investment program: $273 billion over the next 5 years. According to a recent Reuters report, the ill-starred Abreu et Lima refinery which Petrobras is building near Recife will be completed four years behind schedule at a cost of $20 billion - nearly five times the original budget and 42 per cent more than was budgeted as recently as February of this year. Let us hope similar delays and cost over runs do not occur with their (a priori even more challenging) upstream investments. Another straw in the wind here is the rise and fall of OGX Petroleo & Gas Participacoes (ticker OGXPY

> *US), the Brazilian oil company that sprung to prominence a few years ago, staffed with former Petrobras' executives, only to disappoint its investors of late.*
> *In summary, yes there are new oil resources to be developed but it will require high prices for it to happen and even then it is by no means certain that these resources can be developed fast enough to offset declining production from the existing supply base. More likely is that prices will need to rise periodically to curb demand growth emanating from the developing economies. In any event, we feel that longer dated oil prices which remain at a steep discount to spot prices remain a relatively safe investment with very significant upside and limited downside.*

Thanks to Dennis and his anonymous colleague for giving us another dose of reality when so many are taking only part of the facts and coming to very different conclusions.

One final point: Japan's abandonment of nuclear power post-Fukushima has put constant incremental demand into the world petroleum markets. Nuclear power, which supplied 31% of Japan's electricity in 2000, has dropped under 15% by 2012. Meanwhile, according to Japanese government statistics, the 10 largest electric utilities have increased their usage of: 1) oil by 150% since 2011, 2) fuel oil by 83% since 2011 and 3) liquefied natural gas by 29% since 2011. We believe this incremental demand is not temporary and is surely underpinning oil prices. We also believe that the boycott of Iranian oil supplies is contributing to higher prices.

Other Markets

US Equities markets have outperformed most other assets during 2012, and as earnings growth stumbles, we believe it will be harder for equity markets to maintain the upward momentum of the past few months. We do believe that easy monetary policies of central banks will provide some tailwinds for world equity markets, but the mix of historically low interest rates, plentiful cheap labor and world growth

Bond yields, after setting all-time lows in July, have settled into a higher range, with the 10-year Treasury trading between 1.60% and 1.85%. While we are wary that a flight-to-quality scare into US Treasuries would happen if equity prices were to drop sharply, we also believe that the risk-reward for holding Treasuries, even for the short-term, doesn't make sense. Shocks to bond yields seem to be the "black swan" few bond market participants are figuring into the economic landscape, so we continue to shy away from bonds.

Meanwhile in Europe, fiscal conditions continue to deteriorate but bond prices have been buoyed by the ECB's offer to buy sovereign bonds of those countries who ask for a bailout by the EU and the International Monetary Fund (IMF). Many see the inevitability of Spain and Italy asking for aid, so as a result, investors have been buying Spanish and Italian bonds. We believe that the fundamentals surrounding the fiscal conditions of

Europe and countries' budget deficits (which, as mentioned above, are almost surely understated) make investing in these bonds too risky, in spite of their high yields.
Kanos Quarterly Commentary

Psychology and Perceptions in the Financial Markets

Many participants in the financial markets periodically forget the important role psychology plays in the performance of financial markets. However, psychology represents one of the main drivers of markets, and financial managers should analyze and utilize it in their analyses. We thought it would be useful, as well as instructive, to illustrate different episodes of how psychology impacted us in our investments so that we can all better understand market psychology.

The classic example of market psychology "gone wild" was what is now known as the "dot.com bubble." Many of us remember the period in the late 1990s when some companies sold at astronomical multiples based on unproven concepts and very little financial performance. The era combined rapid technological innovation, favorable business conditions (the end of the Cold War and the re-entrance of China, Russia and India to unencumbered world trade) and easy monetary policy (the year 2000 "Y2K" scare). As companies were founded and rapidly grew in importance (and in market capitalization), many investors were transformed into speculators. Companies like Netscape (which developed the first web browser), America Online (the first large e-mail provider and later the first real on-line community) and Amazon.com (the first large online bookseller) made thousands of investors wealthy as they became substantial corporations and market leaders in a very short time. As more concepts became possible due to more computing power, better communications and new consumer buying patterns, thousands of new companies were launched trying to become "the next AOL" or "the next Netscape," but eventually "the next Pets.com."

Investor psychology continued to shift as new concepts were introduced, many of which made early investors huge amounts of money (although most eventually failed or were bought for pennies on the dollar). The lure of finding and participating in the next blockbuster stock shifted investment psychology to a more speculative euphoria across the investor spectrum. As new tech companies became large and more a part of the financial landscape, they were added to indices, meaning mutual fund managers, pension fund managers and other institutional pools of money **had to start buying these companies** in order to keep up with their respective investment benchmarks. This activity institutionalized more speculation, and as fund managers tried to beat their competitors, they started to invest in these young companies earlier and earlier in the company's "life cycle," trying to find big winners earlier and attracting more capital to their funds.

As the year 2000 dawned, the Nasdaq index, where most of these tech companies traded, rose to heights not imagined just a couple of years before. By this time, a large number of investors had transformed into almost full-time speculators, forgetting the fact that equities can drop in value, sometimes precipitously, and sometimes all at once. However, even more surprising to our value investor nature, more traditional companies like materials, industrial and financial/insurance companies were driven down in value as capital came out of traditional industries to be redeployed in technology. Famously, Berkshire Hathaway lost half its value between January 1999 and April 2000 as Warren Buffett was considered out of touch, and Berkshire poorly invested.

Of course, most know the aftermath of this financial bubble. Hundreds of billions of dollars were vaporized from poor investments, as "stillborn" concepts like funerals.com (how do you perform funerals over the internet?) or Webvan.com (grocery shopping with home delivery at a discount to shopping for yourself) [Aside: one of our friends said in 1999 he loved Webvan.com, because he was glad to have the capital markets subsidize his New York grocery bills] failed, leaving their "investors" with worthless stock. One of the chief hardware beneficiaries of the boom, Cisco Systems, traded as high as $82/share, briefly becoming the highest valued corporation on the planet at a $600+ billion market capitalization; however, after dropping in price to $8/share in late 2002, it has never traded higher than $35/share and currently trades for under $20/share (in spite of having grown its sales and profits consistently over the years following 2000).

The point is that market psychology changed as a number of factors combined to make some formerly-attractive companies far less attractive to investors, while other companies were suddenly embraced due to a change in perceptions.

There are a number of these episodes that have happened since the dot com fiasco (albeit less pronounced). Other examples have occurred in different asset classes, and examples include: 1) **Financial companies from 2003-2007** – easy money, relaxed regulatory impediments, scope of permitted operations expanded, and lax oversight led to huge but unsustainable growth in size and profits of large banks before the financial crisis [we were short in many of our accounts Washington Mutual, for example]; 2) **Commodities in 2008** – easy money combined with strong combined worldwide GDP growth pushed prices higher after easy money policies were implemented to help the weakening financial sector; and 3) **Tech stocks/social networking stocks in 2010-2012** – Apple, Google, Salesforce, Netflix, culminating with the Facebook IPO crash all were valued for their recent rapid growth despite weak consumer balance sheets and income growth pointing to slower growth in the future.

The pervasiveness of the above arguments show how hard it is to fight negative perceptions, and how negatively-perceived industries have to overcome years of ingrained thinking to transform their reputations to being on the "right" side of investor perceptions. The slowness of these shifts also leads to favored sectors getting very overbought and negatively-perceived sectors staying oversold for long stretches of time.

But when sentiment turns, it is often very powerful and many times leads to sustained investment outperformance. One recent example of this phenomenon is the 2012 outperformance of the homebuilding sector; many investors have decided that the housing sector has bottomed and that homebuilders will benefit in the future – thus, these companies, which were massively shorted and under-represented in portfolios in the 2008-2011 period are now seeing outperformance, with some homebuilders up 100% off their recent lows.

The classic psychologically-based investment decision is: "No one was ever fired for buying IBM." The amazing thing about this sentiment is that it is just as true today as it ever was despite IBM's relatively financial underperformance since the 1990s. The perception that "Big Blue" was solid financially, an innovator technologically and the best and brightest personnel-wise are all no longer true: IBM has borrowed heavily in recent years and has routinely used accounting "gimmicks" to maintain pedestrian financial results (at best), has lagged technologically due to its historic anchoring to mainframes and proprietary software and now relies on its Services division to sell to governments and financial firms (which both have a large installed IBM equipment base) in order to hit their numbers. IBM is no longer inventing and selling cutting edge technology that was characteristic earlier in the company's history. In 2012, institutional investors continue to buy IBM in part because of this classic psychological reason, even though the fundamentals and financial performance of the business have lagged historical performance. The company has been successful by cultivating this image via non-specific marketing and highlighting one-off "inventions" like the Watson supercomputer competing on the game show "Jeopardy."

Our portfolios have suffered in part by being on the other side of the investment universe; our value portfolios have recently underperformed growth and concept investments. Our emphasis on natural resource sectors that exhibit favorable supply/demand fundamentals but have some uncertainties, including growth based on rising commodity prices, have not caught widespread **institutional** investor enthusiasm.

Much of the shunning of resource stocks is based on investor psychology. The rationales have less to do with investment criteria and more to do with psychology: 1) commodities, especially gold and silver, are "retail" ideas that aren't sophisticated enough for institutional portfolios; 2) this is (supposedly) a time of slow or negative economic growth (and possibly deflation), so resource companies should suffer while consumer staples with pricing power should be the better beneficiaries (although the favor shown to technology firms due to their recent growth ignores their historic lack of pricing power); 3) professional investors tend to be trend followers and index followers, so poor recent price action in resource stocks tends to discourage professional enthusiasm; 4) relatively small market capitalization in resource stocks (except for energy) leads to a small research following from large investment firms; and, in spite of higher commodity price performance over time, research analysts still exhibit lukewarm enthusiasm for the sector in general; 5) the abovementioned small market capitalization and recent underperformance leads to difficulties in convincing investment committees and consultants for large investment pools (pensions, endowments, etc.) to invest, 6) companies in the resource sector tend not to appear to be environmentally friendly – unfortunately, these days, investment committees have often adopted aggressive “eco-friendly” policies based as much on perception as reality.

Many of these “reasons” to not invest are non-financial and, more disturbingly, perception-based and inaccurate. We would address these concerns as follows: 1) Metals investments are also favored by shrewd institutional investors, including (as mentioned above) Bill Gross of Pimco (largest bond fund manager), Ray Dalio of Bridgewater (largest macro hedge fund manager), Jim Rogers (former macro manager with George Soros), Dennis Gartman (investor and newsletter writer) and many others. Thus, commodities and more specifically precious metals being a “retail-only” idea is nonsense. Reasonably-priced energy (petroleum being the most efficient) is vital to modern economies and future supply is a larger concern than many are willing to admit; 2) While financial markets continue to indicate deflation as a primary reason for asset price weakness and the popularity of bonds, it is the collapse in price of overpriced legacy assets from the credit boom of the 1990s-2000s that is causing what appears to be deflation; central banks fighting to boost asset prices is what is (and what will continue to be) contributing to inflation, and these inflationary forces are boosting commodity prices, especially vital goods (energy) and stores of value (precious metals); 3) Classic contrarian analysis should drive many professional investors to embrace resource investments, which sport low or reasonable valuations, generally favorable supply/demand fundamentals and the possibility of top-line growth, not to mention that the price action seems to have bottomed out, but the herd-mentality of investment professionals means that they will only move more strongly into resource investments after momentum has been established and valuations have been pushed higher; 4) When outperformance leads more professional investors to invest in resource stocks, market caps will grow and better analysts will be assigned to provide research for the industry, leading to more enthusiasm by research (and sales) departments; 5) Once “early mover” institutional investors like hedge funds and more daring endowments outperform by featuring resource investments, perpetually-lagging perceptions of investment committees and investment consultants will change to include resource investments from a minor inclusion to become a required major investment sector, leading to much higher capital flows into the sector; and 6) The way resource companies spend money and time on preserving the environment around them will be highlighted instead of the companies being universally vilified for their supposed “corporate greed and feasting on Mother Earth.”

We have lots of space in our current and previous writing on the reasons to invest in resource stocks. There are obviously some perceived drawbacks to investing in resource stocks that investment professionals routinely point to as excuses not to invest. These investment risks include: 1) historically, resource company managements have been less concentrated on financial performance, instead focusing on getting large projects online (regardless of cost); however, the recent underperformance of the companies' equities prices has led to much of this behavior disappearing as managements are forced to focus on financial results or are replaced, 2) rising costs (especially of energy and labor) which have led to flat (and sometimes shrinking) profit margins, even during times of rising prices for their products; however, managements have focused on running more efficient businesses, with costs a main focus of operations, thereby showing that these industries are becoming some of the most efficient competitors worldwide, and 3) without rising commodity prices, these companies may show poor financial results which, while true, ignores the intermediate-to-long-term trend of higher prices bolstered by central banks' increasingly growing monetary easing programs.

Good investing often requires humans to make rational decisions and to keep our human emotions at bay or to a minimum. Divorcing emotion and investment decisions is a difficult proposition to master, but when done well, it leads to better investment decisions. We at Kanos continue to try to master controlling our emotions and performing superior data-driven research in order to buy good companies that we believe are selling at attractive prices. As we've said on a number of occasions, we look forward to a more normalized investment environment where we can invest your capital in a diversified portfolio of US and international industries and companies. However, we currently feel compelled to incorporate monetary instability as a primary driver in our investment decisions in order to protect our clients' purchasing power. Trying to fight against psychology when the fundamentals argue for staying in attractive investments is one of the hardest things we've had to do in our professional lives, but we continue to believe patience and the weight of macroeconomic and industry fundamentals will ultimately prove to be extremely profitable for your investment portfolio.

The Managers of Kanos Capital Management