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MUSINGS FROM THE OIL PATCH

April 1, 2008

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Note: *Musings from the Oil Patch* reflects an eclectic collection of stories and analyses dealing with issues and developments within the energy industry that I feel have potentially significant implications for executives operating oilfield service companies. The newsletter currently anticipates a semi-monthly publishing schedule, but periodically the event and news flow may dictate a more frequent schedule. As always, I welcome your comments and observations. Allen Brooks

This issue represents a departure from our normal format. It consists of only one article, an extended discussion of the outlook for energy stocks, something we believe is timely. We apologize in advance for the article's length but it is due to the number of charts and graphs.
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Bloom Off Oil Rose; What's The Future for Energy Stocks?

Did this Ides of March mark a departure from the status quo?

This Ides of March the bloody corpse lying on the temple floor was that of the fifth largest U.S. investment banking firm, Bear Stearns Corp

One must wonder whether once again an Ides of March marks a departure from the status quo. In 44 BC on March 15, the Roman emperor Julius Caesar was assassinated by a number of his fellow politicians as he entered the Theatre of Pompey to meet with the Roman Senate. The assassination was described in Act III, Scene I, of William Shakespeare's play, *Julius Caesar*.

As Caesar was making his way to the meeting, he encountered a soothsayer who had previously warned him to "Beware the Ides of March." To the soothsayer, Caesar said, "The Ides of March has come." To which the soothsayer responded, "Aye, Caesar, but not gone." Little did Caesar know how astute the soothsayer's comment would appear later in the day, nor even some two thousand and fifty-two years later. This Ides of March the bloody corpse lying on the temple floor was that of the fifth largest U.S. investment banking firm, Bear Stearns Corp. (BSC-NYSE), which was salvaged by a highly politicized and distressed transaction orchestrated by the Federal Reserve and the new owner, JPMorgan Chase (JPM-NYSE).

The \$2 per share deal price (subsequently increased to \$10 a week later), some 93% below the stock's closing price the previous Friday, brought to mind the comment of Mark Antony when he entered the Senate chamber following Caesar's assassination. At that point in Shakespeare's play, Mark Antony says, "O mighty Caesar! Dost thou lie so low? Are all thy conquests, glories, triumphs, spoils,

The impact of the Bear Stearns debacle set the tone for the following week's action in the commodity pits and on the floors of stock exchanges around the world

shrunk to this little measure?" For Bear Stearns whose stock traded for \$150 per share barely 12 months previously, the remains were like Caesar's mutilated body, not of much value. For many investors, the impact of the Bear Stearns debacle set the tone for the following week's action in the commodity pits and on the floors of stock exchanges around the world. As the Roman senators believed that they had ended imperialistic trends, investors must contemplate the specter of a seismic shift in investment sentiment.

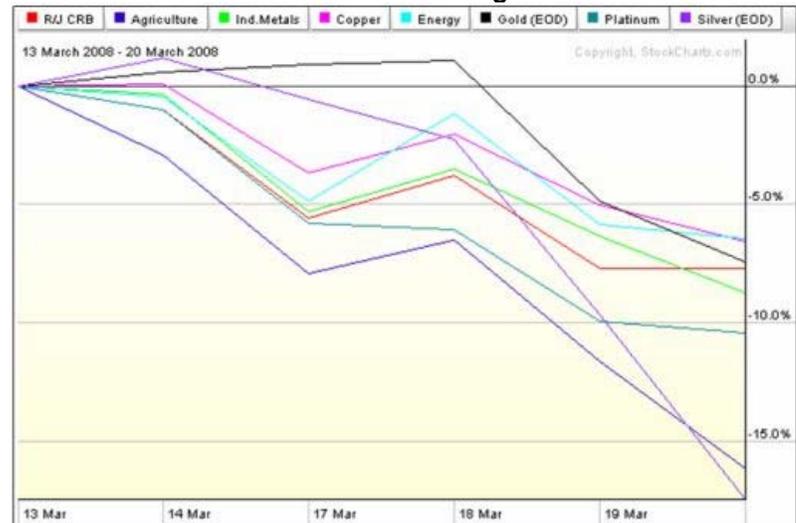
After a seven-year bull market for commodities, most of them experienced significant price declines following the Bear Stearns debacle. While the conventional explanation of the price corrections was that hedge funds and other large investors who were behind the surge in prices had been hammered with margin calls that forced them to sell. However, another plausible explanation, but one which seemed to carry less weight among the talking heads on CNBC, was that the love affair with commodities was ending because there was a growing recognition that global economic activity was heading down, undercutting the fundamental demand for these materials. While that might be true for the industrial metals and petroleum supplies, it is hard to see how lower economic activity would reduce demand for foodstuffs unless we are secretly contemplating massive starvation in parts of the world. The sharp rise in the price of rice could foreshadow that eventuality, or massive violence in Asia.

Does this commodity price correction mark the first stage in the end of the bull market for hard assets and commodities?

The big question is whether this commodity price correction marks the first stage in the end of the bull market for hard assets and commodities, or is merely a violent correction in a market trend still underway? If the former conclusion, does it mean the stock prices of companies dependent upon these commodities are also at risk of crashing to earth after having soared so high in recent years? But is the commodity boom really over? What if it is only cooling by a few degrees? Have the ingredients that created the recent hyperbolic price moves for most commodities merely dried up, yet left behind solid demand fundamentals? Can commodity-dependent company stock prices continue to rise without soaring commodity prices? In the case of energy, maybe the past can actually yield some perspective.

The correction in commodity prices experienced a week ago was dramatic by any measure

The first step in attempting to answer the question of where energy stocks are headed is to try to better understand present market conditions, especially for commodities, and what are current investor beliefs and attitudes toward risk and how these investors may react to current market trends. The correction in commodity prices experienced a week ago was dramatic by any measure. As shown in the following charts, almost every commodity was treated to a significant haircut in price regardless of whether it was justified or not. That sort of price action, while admittedly extreme, is not unheard of in markets given the fundamentals underlying the triggering event.

Exhibit 1. Commodities Suffered a Huge Price Correction

Source: Investment Postcards from Cape Town

The price action would suggest that margin calls may have been the primary driver behind the commodity correction

Of the seven commodities in Exhibit 1, spanning the range of industrial metals, agricultural crops, precious metals and energy, along with the Commodities Research Bureau (CRB) index, all suffered declines in excess of 5% with several down more than 15%. The price action would suggest that margin calls may have been the primary driver behind the correction. Coupled with margin calls is a tendency for investors to want to protect against the potential for further price declines by locking in any gains they have and/or to raise cash for future investments. Whatever the motivation, it brings to mind that old Wall Street expression: When they raid the warehouse they take the piano player, too, meaning no one is exempt from this sort of massive market correction.

Since gold produces no current monetary return, the value in owning gold comes from the view that it will retain value while paper currency tends to depreciate

For gold, the correction was possibly more dramatic. As the following chart demonstrates, about 30 days worth of market gains were wiped out in a matter of hours. But what needs to be remembered about gold is that it represents a measure of risk insurance. Possibly speculation rather than deteriorating underlying economic trends played the major role in gold's price correction. Yes, gold is used in certain industrial applications, but most of the gold consumed each year is for jewelry, with the balance utilized for wealth protection. Since gold produces no current monetary return, the value in owning gold comes from the view that it will retain value while paper currency tends to depreciate. The decline in the value of the U.S. dollar against most major world currencies in recent months due to the Federal Reserve's aggressive lowering of interest rates to help stave off a recession has given life to the "gold as an inflation hedge" hominem. So while the correction in the price of gold in response to the Bear Stearns news was dramatic, it may merely be signaling that some of the perceived risk to the global financial system may be easing rather than the system being on the brink of an ultimate collapse. That view was suggested following the

earnings reports from Lehman Brothers (LEH-NYSE) and Goldman Sachs Group Inc. (GS-NYSE) that were better than Wall Street analysts expected and demonstrated that financial markets were functioning better than people thought.

Exhibit 2. Gold Has Experienced A Harsh Price Correction

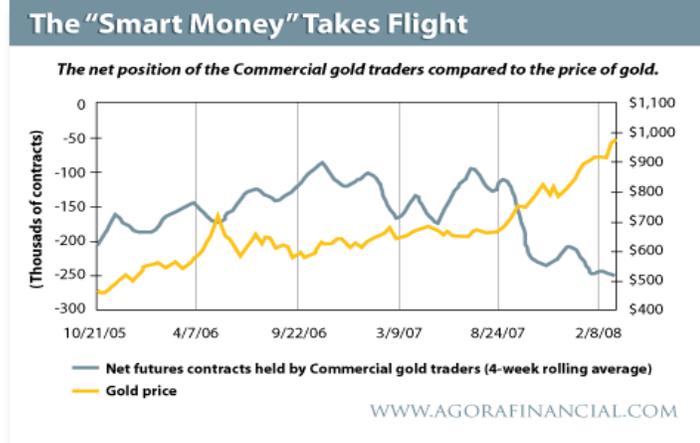


Source: Agora Financial

What is most telling about the recent action in commodities is the position of the “smart” money

The role of speculation in commodities markets in recent years cannot be underestimated. Whether driven by concerns about the value of the dollar, commodities as a new asset investment class or global demand continuing to outstrip world supply, investors have piled into these markets. What is most telling about the recent action in commodities is the position of the “smart” money – or the funds committed by commercial users of various commodities. While Exhibit 3’s chart shows what has happened to trader positions in the gold market, reports abound about how the smart money is moving out of long positions or switching to short positions in other commodities.

Exhibit 3. Commercial Interests Are Sellers Not Buyers

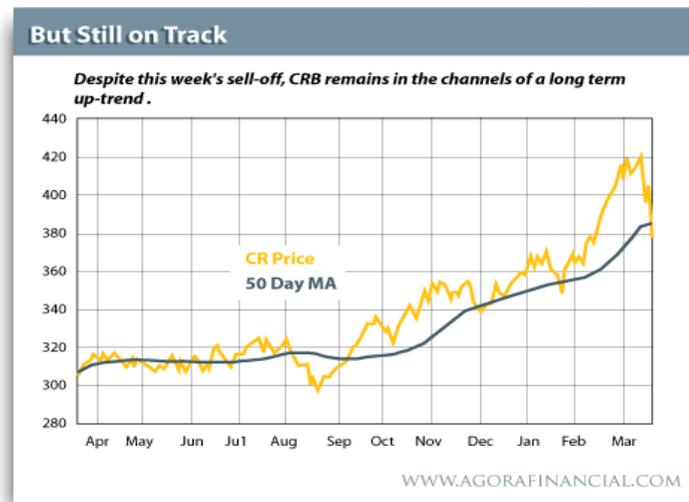


Source: Agora Financial

The correction has merely wiped out some of the speculative investments in commodities

Despite this severe commodity price correction, what is surprising is to see that the case for commodities has not been destroyed. As the chart in Exhibit 4 demonstrates, even with the sharp pullback in the CRB index, it is still trading at its 50-day moving average, which is a measure of technical support. This demonstrates how the correction has merely wiped out some of the speculative investments in commodities. Speculators are playing commodities as a hedge against the weakening U.S. dollar and in response to the new investment thesis that all portfolios should have exposure to commodities for diversification. This new investment thesis has evolved from recent academic research showing that the price movement of commodities is counter to the price action of stocks and bonds. So as a hedge against possibly falling stock and bond prices, having a part of one's portfolio in commodities could be a valuable counterbalance and wealth protection measure. A headline in *The New York Times* stated this proposition well – “Commodities offer refuge in a slowing economy.”

Exhibit 4. Commodities Markets Remain Healthy



Source: Agora Financial

What has happened to the CRB in the past 24 months, however, is truly a reflection of fear of dollar depreciation, heightened concern about future global inflation and shear speculation

The chart in Exhibit 5 shows the long-term perspective for commodities markets as reflected by the performance of the CRB index. For many years the index seemed to barely move, but in recent years there has been significant appreciation as commodities were accepted as the new investment asset class. But what has happened to the CRB in the past 24 months, however, is truly a reflection of fear of dollar depreciation, heightened concern about future global inflation and shear speculation. The asymptotic move in the CRB in recent months reflects these drivers and is usually associated with a bubble that is about to burst. That may have just happened.

Exhibit 5. The Long-term Market For Commodities



As of 03/01/08

@ Barchart.com

Source: Barchart.com, PPHB

10 out of 14 major commodities demonstrated triple-digit increases suggesting the breadth of the commodity bull market

The bull market for commodities has been spectacular as demonstrated by the price appreciation data contained in Exhibit 6. Even including the recent price correction, of the 14 actively traded commodities contained in the table, only four failed to post triple-digit price increases over the past five year time period. All of the four poorest performers are agricultural commodities, or “soft commodities” that are impacted by many variables and are not always subject to just supply and demand factors. While these 14 commodities are representative of the major commodities that are actively traded, there are a whole host of other commodities that participate in the world market. The point is that 10 out of 14 major commodities demonstrated triple-digit increases suggesting the breadth of the commodity bull market.

Exhibit 6. Appreciation For Commodities Have Been Outsized
COMMODITIES: PRICE MOVEMENTS (US\$)
 (periods ended March 18, 2008)

Commodity	Year to date	One year	Three years	Five years
Brent crude oil	9.5%	74.3%	91.3%	255.6%
Natural gas	3.8%	156.4%	78.0%	215.8%
Corn	19.8%	36.9%	144.7%	138.1%
Soybeans	8.9%	73.3%	94.5%	129.8%
Wheat	31.9%	153.3%	218.4%	298.6%
Copper	24.1%	27.1%	141.9%	406.7%
Cotton	10.1%	38.8%	45.8%	24.7%
Cattle	-5.1%	-6.1%	3.0%	24.3%
Gold	17.8%	50.3%	124.0%	191.9%
Platinum	28.3%	60.2%	122.8%	183.4%
Silver	33.0%	50.0%	166.8%	343.5%
Coffee	1.2%	24.9%	1.3%	139.5%
Cocoa	31.6%	49.7%	46.4%	35.6%
Sugar	14.1%	20.4%	35.4%	58.7%

Source: Investment Postcards from Cape Town

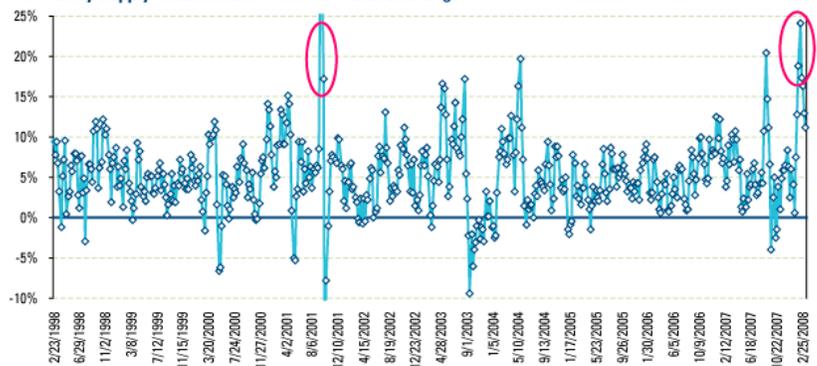
One of the influencing factors behind the commodities bull market has been the debasement of the U.S. dollar. As the Federal Reserve has attempted to deal first with the deteriorating housing sector in the United States economy and second with the problems

Investors are beginning to demand a premium for holding U.S. Treasuries given the risk of their principle and interest being eroded by inflation caused by the flood of U.S. dollars hitting the global market

of the lack of credit market liquidity and confidence that began in 2007, its response has been to push money into the U.S. financial system in an effort to lower short-term interest rates. This injection of money has pushed short-term rates lower, but not necessarily long-term rates as investors are beginning to demand a premium for holding U.S. Treasuries given the risk of their principle and interest being eroded by inflation caused by the flood of U.S. dollars hitting the global market. As Exhibit 7 demonstrates, the latest spike in the rate of growth of U.S. money supply as measured by the somewhat more expansive characterization of money, M2, is comparable to the flood of currency injected into the financial markets following the 9/11 attack on the United States in an attempt then to ease the fear gripping the world. Will this money bring future inflation?

Exhibit 7. The Flood of Money Worries Foreign Debt Holders

M2 Money Supply - Four Week Annualized Rate of Change



Source: U.S. Global Research

Source: U.S. Global Funds

Many foreign institutions are limiting the amount of U.S. government obligations they are willing to hold

Internationally, buyers of U.S. government bonds have been watching with horror the growing federal budgetary deficit and this country's large and growing foreign trade deficit. The latter has been impacted not only by increased imports of consumer goods, but the large volume of crude oil that has dramatically increased in price over the past 12 months. While the budget deficit represents only a very small percentage of the U.S. gross domestic product, the absolute number is large and increasing, and is scary to foreign investors. As those foreign investors now hold 46% of outstanding U.S. government debt and are watching the value erode as the U.S. dollar declines in value, they are beginning to alter their investment strategies. Now many foreign institutions are limiting the amount of U.S. government obligations they are willing to hold. They are often seeking investments in countries and currencies that are perceived as stronger than the U.S. The chart in Exhibit 8 shows the trend in the relationship between the U.S. dollar and the European Euro, which last week reached a new high of \$1.59 to the U.S. dollar.

Exhibit 8. Euro Continues To Soar Against USD

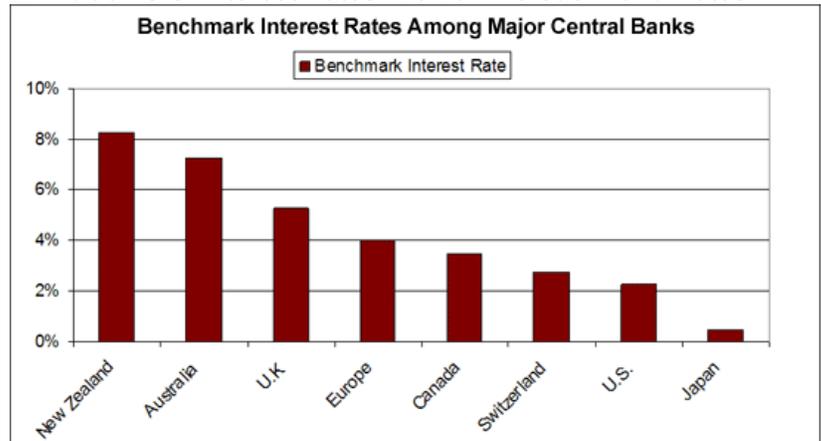


Source: Money and Markets

Fighting a possible recession has taken precedence for the Federal Reserve over inflation worries or promoting a strong U.S. dollar

Another reason for the growing strength in foreign currencies compared to the U.S. dollar has been the determined policy of the Federal Reserve governors to lower domestic interest rates to try to head off a likely economic recession. Fighting a possible recession has taken precedence over inflation worries or promoting a strong U.S. dollar. In other parts of the world, central bankers have different mandates. The most prevalent mandate is to preserve the value of that region's currency and to be less concerned about protecting employment levels in the country. As a result, the U.S. short-term interest rate is meaningfully below those of other major countries, which increases the challenge for the Federal Reserve in managing financial markets.

Exhibit 9. U.S. Interest Rates Are Low Versus World Rates



Source: Northern Trust

Slowing economic activity in Europe may prompt the European Central Bank and the Bank of England to reduce their interest rates

If, and that is a big if, the current financial crisis is beginning to bottom as some analysts are suggesting, then we might be looking at the end of U.S. interest rate reductions and the accompanying depreciation of the value of the U.S. dollar. Slowing economic activity in Europe may prompt the European Central Bank and the Bank of England to consider reducing their domestic interest rates

We are convinced that a new environment is beginning to be established

The challenge for investors is to try to understand the future economic and investment world that will evolve from the problems associated with the ending of the current investment environment

How different the world today is from the Goldilocks world of not that many years ago

The root of our financial markets and economic problems reside with the household sector

that would close the gap with U.S. interest rates. A global economic slowdown will cut demand for minerals that have been driving the Australian economy and might contribute to a weakening of the value of its dollar, but at the moment, that potential seems a long way off.

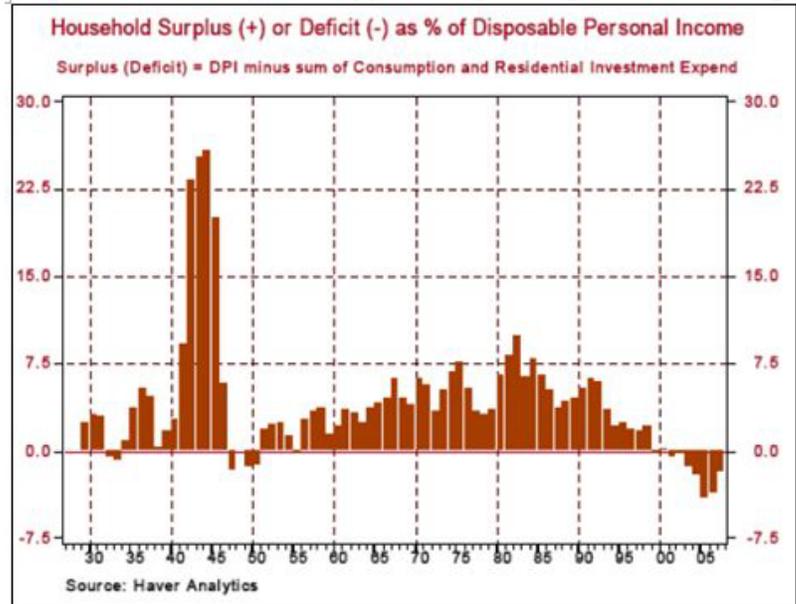
When we consider all the trends underway in the global economy and world financial markets, we are convinced that a new environment is beginning to be established. We do not know exactly what it will be, but it is likely to be different than what we have recently experienced. We recently read a paper written by the 87-year old financial historian and investment strategist, Peter Bernstein, someone whose intellect and experience we value. In that paper, he argues that the investment environment is evolving and that it may take years before we fully return to the stability we experienced in the past. The challenge for investors is to try to understand the future economic and investment world that will evolve from the problems associated with the ending of the current investment environment. As Mr. Bernstein puts it, "As Goldilocks shreds, we have to start thinking about what kind of long-term environment is going to replace it. Shifts to new environments are always attenuated. They are also rare across time, which means most of us have limited experience with this phenomenon. New environments often tend to sneak up on us and do not announce themselves with a fanfare. Most of us are unaware of what has happened until enough time passes to provide good perspective."

Mr. Bernstein's paper discusses the investment conditions and trends that carried this country, and the world, from the Great Depression era through to the dot.com bust. The world that replaced the dot.com era he calls "Goldilocks" because it was characterized by "low volatility in capital markets and in the real economy, low inflation, central banks in firm control, a healthy appetite for risk-taking in the business world that led to revolutionary technological change, the transformation of the 'emerging' economies into 'developing' economies, and the resulting boom in globalization." When we consider today's world, inflation has become a global phenomenon, central banks are struggling to keep control over financial markets, the increase in volatility in capital markets has investor heads swimming, businesses have become risk-adverse and globalization with its benefits is now the target of political and voter anger. How different the world is today from the Goldilocks world of not that many years ago.

According to Mr. Bernstein the root of our financial markets and economic problems reside with the household sector. The problem is that household incomes are not rising fast enough to offset the rising cost of living. The result has been a serious deterioration in the savings rate – almost at zero, which is the lowest since it turned negative during the Great Depression. He does not believe this problem is due to wild spending on the part of households. But the shortfall between incomes and outlays was financed by borrowing against family real estate. Now that it is no longer a financing

option, consumers will have to change their spending patterns. A slowdown in consumer spending poses ominous implications for the global economy.

Exhibit 10. Household's Supported Spending With Borrowings



Source: Northern Trust

The problem of a lack of trust in credit markets and restricted consumer spending means an extended period of time with sub-optimal economic growth

Slower economic growth will lead to reduced commodity demands just as those industries are starting to bring on new supplies

Coupled with consumer spending issues are problems in our capital markets. The problem of a lack of trust in credit markets – the heart of the current financial industry turmoil – and restricted consumer spending means an extended period of time with sub-optimal economic growth according to Mr. Bernstein. This assumes there will not be an immediate upturn in the residential housing market.

These conditions will take their toll on mature and developing economies alike. Despite global population growth, per capita income growth will struggle to advance that will ultimately limit the ability of governments to fund both the huge social programs and rebuild entire country infrastructures. In developing economies where governments have been protecting consumers against inflation by government subsidies, financial collapses are possible. Slower economic growth will lead to reduced commodity demands just as those industries are starting to bring on new supplies. Economics 101 still works and we are likely to see lower commodity prices in the future, despite the perceived costs and difficulties in developing these new supplies.

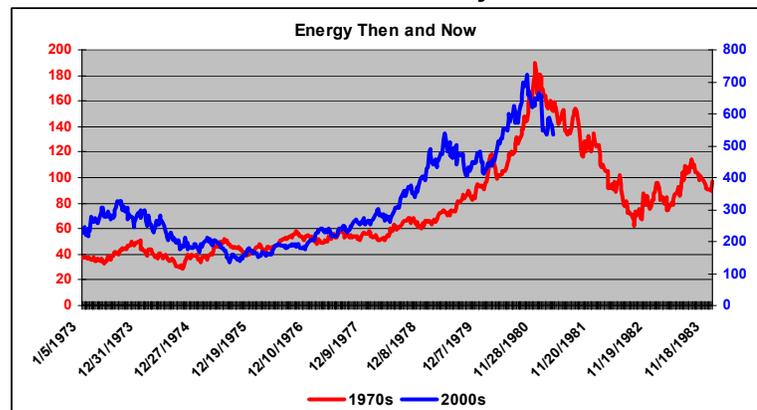
So what does this mean for oil and oilfield service stocks? After a dramatic fall earlier this year, partly in response to the overall stock market correction driven by fear of a global economic and financial collapse, energy stocks have gradually recovered some of their former stature. But the question is can they continue to provide superior returns as they did in 2006 and 2007? With many investors

Many investors and analysts suggest that the economy is moving into an environment similar to that experienced in the 1970s

and analysts suggesting that the economy is moving into an environment similar to that experienced in the 1970s, which was an excellent period for oil and oilfield service stocks, could we expect a similar performance from the stocks for the balance of this decade? We have been a strong proponent for the past five years that this decade could witness oil and oilfield service stocks dramatically outperforming the overall market as they did in the 1970s. While we were never sure they would return the absolute outperformance that they did during the 1970s, we felt comfortable in saying they would safely outperform the overall market.

What we have seen so far this decade is a stock price performance pattern that mimics the pattern in the 1970s. As shown in Exhibit 11, when we plot the performance of the S&P Energy index for the decade of 1973-1983, which marked the great energy boom of that period, against the modern record of the index since 2000, the pattern of the two periods is remarkably similar. In fact, the similarity of the pattern is almost scary for its future implications.

Exhibit 11. This Chart Pattern Is Scary!



Source: Global Finance, PPHB

Is the pattern more significant as an indicator of what we should expect in the future, or should we assume that until the percentage gains are similar the bull market in oil and oilfield service stocks will continue?

While the patterns of the two eras are similar, because of the different levels at which the indices were at in each period, the percentage performance of the energy stocks so far this decade has not matched the performance they generated in the 1970s. So we are left somewhat in a quandary: Is the pattern more significant as an indicator of what we should expect in the future, or should we assume that until the percentage gains are similar the bull market in oil and oilfield service stocks will continue? To try to resolve that quandary we looked at the ratio of energy stock performance compared to the returns of the broad market believing that investors will ultimately reap profits from their investment winners and the more expensive (highly valued earnings) stocks, and shift funds into the lagging companies, which have become relatively cheap (modestly valued earnings) in the massive stock market correction. The results of this analysis blew us away. (See Exhibit 12.)

What we did was to calculate the price appreciation, or in the most

recent period the depreciation, between various starting and ending points for both the S&P 500 and the S&P Energy indices in the 1970s boom period and the current decade, and then compare the performances over these measuring periods. We used weekly stock price data because that was the only data available for part of the time period. We accept that it is a slightly less exact analysis, but as the joke goes, it's good enough for government work. We are really trying to get a sense of performance over long periods of time rather than pinpointing the performance to the day. To do the latter is a level of exactitude that is unnecessary for this exercise.

While we believe the 1970s oil boom really started in 1973 in response to the jump in crude oil prices due to the Arab oil embargo, we also included a performance measurement starting in 1970. The other challenge is determining the ending point. Here we chose two points: the ends of 1980 and 1983. But we also included the week containing the peak value for the S&P Energy index that occurred in late November of 1980. For the current decade, our measurement period starts in 2000 and goes up to the mid-March week, but we also included performance for the period ending with the market's mid-October 2007 peak.

The relative performance of energy over these two periods was 24-30 times greater than for the overall stock market

Whether we start at the beginning of 1970 or 1973 seems almost immaterial when measured to the peak or end of 1980 mark. That is partly because the peak was in November of 1980, or very close to the end of the year. The relative performance of energy over these two periods was 24-30 times greater than for the overall stock market. Clearly energy was the sector to be invested in. As we will show later, that performance attracted significant investment interest and led to a substantial energy weighting in the overall S&P 500 index, which eventually created problems for investors when the bull market for energy ended.

For the 2000 decade so far, the almost 26 times greater return up to the October 2007 peak fits neatly within the range of returns earned during the 1970s oil boom era

When we calculated the relative performance of energy to the overall market for the 2000 decade so far, the almost 26 times greater return up to the October 2007 peak fits neatly within the range of returns earned during the 1970s oil boom era. While we recognize that on a percentage price appreciation basis, energy investors haven't made as much money as they did in the 1970s, compared to alternative investment returns, energy has returned almost the same outperformance as those stocks did during the earlier period. The \$64,000 question now is does energy have more to give investors?

Exhibit 12. Recent Relative Returns Are Comparable to 1970s

<u>Date</u>	<u>S&P 500</u>	<u>S&P Energy</u>	<u>Ratio</u>	<u>Comment</u>
1/2/1970	-	-		
1/5/1973	28.9%	203.4%	7.0	
11/28/1980	51.1%	1445.9%	28.3	Cycle Peak
12/31/1980	46.0%	1355.3%	29.5	
12/30/1983	77.3%	687.8%	8.9	
<u>Date</u>	<u>S&P 500</u>	<u>S&P Energy</u>	<u>Ratio</u>	<u>Comment</u>
1/5/1973	-	-		
11/28/1980	17.2%	409.5%	23.8	Cycle Peak
12/31/1980	13.3%	379.6%	28.5	
12/30/1983	37.6%	159.6%	4.2	
<u>Date</u>	<u>S&P 500</u>	<u>S&P Energy</u>	<u>Ratio</u>	<u>Comment</u>
1/7/2000	-	-		
10/12/2007	8.4%	215.2%	25.6	Cycle Peak?
3/20/2008	-7.8%	134.1%	NM	

Source: Global Finance, PPHB

The big picture was that high oil prices had stimulated exploration and demonstrated that there was more oil in the world to develop while demand was starting to fall due to Americans and others modifying their consumption patterns

When energy markets peaked in late 1980, they peaked in response to the announcement of the discovery of a new, huge oil field in Russia's Siberian region. We remember discussing (cajoling might be a better word) with investors that while this new discovery was significant it would be many years before that oil ever reached the market and the field's cost of development meant the price for these new barrels of oil supply would not be cheap. This argument, while intellectually and fundamentally correct, carried little weight with the leading money managers we dealt with at the time, who admittedly were not energy experts but saw the big picture, which was that high oil prices had stimulated exploration (the new field) and demonstrated that there was more oil in the world to develop at the same time demand was starting to fall due to Americans and others modifying their consumption patterns. For these investors, the Siberian discovery was the proverbial bell being rung at a market top. Did a bell ring last October?

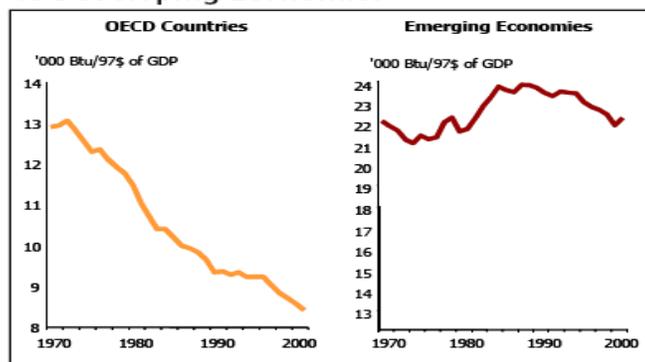
The Arab oil embargo was a fire alarm for the western world that the comfortable world of the 1950s and 1960s was over and a new era had begun

While the recent trading pattern of energy – both the commodity and the stocks – would suggest it was a bell ringing last year, maybe the ringing was only signaling the start of a new era for energy investors. One of the contributing factors to the end of the 1970s oil boom was the ability of OPEC producers to restrict the flow of oil to force the price higher. For them it was an important exercise in power since up until the early 1970s, Middle East oil producers were at the mercy of the price manipulations of the Seven Sisters oil companies. This new found economic power was translated into political power – the Arab oil embargo, which was used to try to punish a select few oil consumers for their support of the Israeli pebble that has been a constant irritant within the Arab world. That move proved to be a fire alarm for the western world that the comfortable world of the 1950s and 1960s was over and a new era had begun.

Leverage over global energy prices shifted to those countries that had surplus productive capacity

When oil production peaked in the United States in the early years of the 1970s, the leverage over global energy prices shifted to those countries that had surplus productive capacity. That shift triggered several new trends. First, Middle East oil producers, who were bound together in a loose and up until then unsuccessful OPEC organization, suddenly found that they could dictate pricing terms to the western oil companies. Secondly, the shock of a peak in U.S. oil production and the loss of absolute control over Middle East oil supplies forced the international oil companies to ramp up their exploration efforts that led to the opening of the North Sea region,

**Exhibit 13. High Prices In The 70s Drove Conservation
Energy Intensity: OECD
vs Developing Economies**



Source: Investment Postcards from Cape Town

numerous West African countries and stepped up drilling programs in other known oil producing regions. Lastly, the oil shocks of 1973 and 1979 motivated the global economy to develop more energy efficient automobiles, appliances and machinery producing a sharply lower growth trajectory for oil consumption. Slowing oil consumption growth gave the international oil industry some breathing room to meet future energy supply needs.

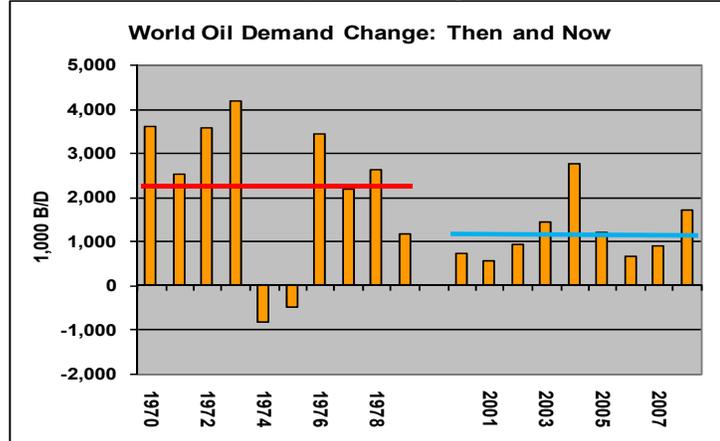
During the decade of the 1970s, the world's oil consumption was growing at an average annual rate of slightly over two million barrels a day; today it is averaging slightly over one million barrels a day

So what trends today are similar to the post 1970s oil boom and what conditions are different? A major trend that seems to be different, but hasn't received as much attention is the annual growth rate in the consumption of oil. As shown in Exhibit 14, during the decade of the 1970s, the world's consumption was growing at an average annual rate of slightly over two million barrels of oil a day. In contrast, the current decade so far is averaging slightly over one million barrels of oil a day if we include the International Energy Agency's (IEA) forecast for oil consumption growth in 2008. If we exclude 2008, the average annual consumption growth is averaging closer to 900,000 barrels a day, well below the record of the 1970s.

We have studied and written often about the tendency of the IEA to project higher than recorded oil consumption growth almost every year of this decade. To us, the potential for even lower annual oil consumption growth may be on the horizon due to the growth in alternative energy and renewable fuel technologies. While that may

merit more articles in the future, for the moment we should recognize that oil is being used much more efficiently and the possibility exists for further improvement down the road.

Exhibit 14. Oil Consumption Averages 1mmb/d Below 70s



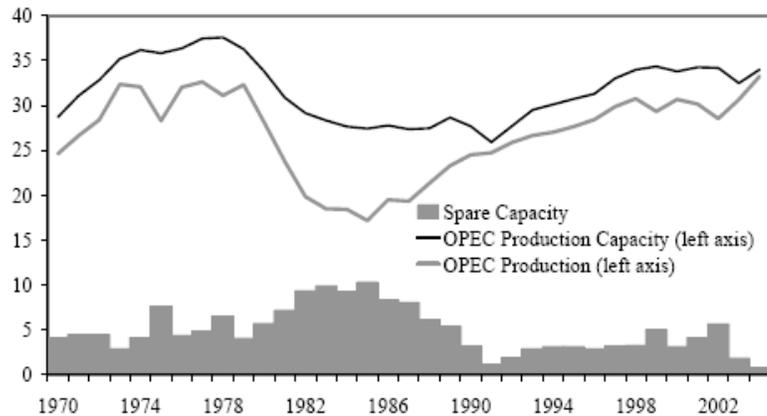
Source: EIA, IEA, PPHB

The exploration and development wave ignited by the ten-fold increase in oil prices during the 1970s produced significant new oil supplies that swapped OPEC’s ability to manage global oil supplies

Another major difference is the supply of crude oil. If we look at OPEC surplus capacity as a measure of the ability of the world’s oil supply to meet growing demand, it is clear that the eras are remarkably different. In the decade following the 1970s boom, when market share battles within OPEC destroyed the cartel’s cohesion, the organization’s surplus productive capacity reached 50% of the volume of oil it supplied to the world market. The exploration and development wave ignited by the ten-fold increase in oil prices during the 1970s produced significant new oil supplies that swapped OPEC’s ability to manage global oil supplies.

Exhibit 15. Large Capacity Surpluses Cushioned The World

OPEC Crude Oil Production with Total and Spare Production Capacity
(millions of barrels per day)



Sources: United States Dept of Energy, International Energy Agency, and IMF Staff
Source: Research Paper by International Monetary Fund, 2005

Part of the reason for that slow growth is the increased water production from existing producing fields signaling their aging condition

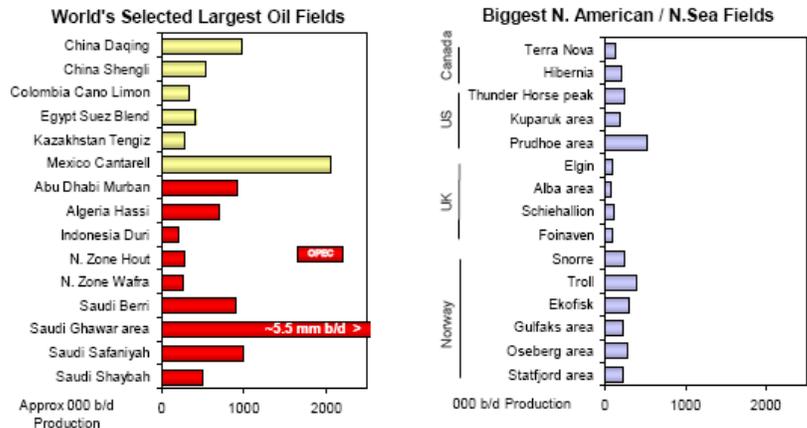
Today, the oil supply picture is virtually 180° different. OPEC is straining to increase oil supplies to tame the explosion in global oil prices and protect against demand destruction due to high oil prices. Even while ramping up its spending dramatically – upwards of \$800 billion will be spent in OPEC member countries in the future to develop new oil and gas supplies – growth in productive capacity is slow. Part of the reason for that slow growth is the increased water production from existing producing fields signaling their aging condition. These older fields are playing an increasingly greater role in the world’s oil supply with significant peril if current production rates cannot be sustained. The problem of sustaining Mexico’s Cantarell field’s production is the most recent example of what can happen when these old fields start to decline. Note in the table in Exhibit 16 how many of the world’s major fields are located in OPEC member countries where access to information about the productive health of the fields is limited. The lack of major new oil discoveries in recent years despite a significant ramp up in global exploration efforts further reinforces the problem the world’s oil industry is having in meeting increasing oil demand.

Exhibit 16. U.S. Oil Fields Play A Small Role in Global Supplies

World’s Production Comprised of Many Fields



- 15 largest fields comprise about 19% of world production
- 15 largest N. Sea/N. American fields comprise about 4.3% of world production
- The US has about 35,000 oil fields



Source: PFC Energy

Source: PFC Energy

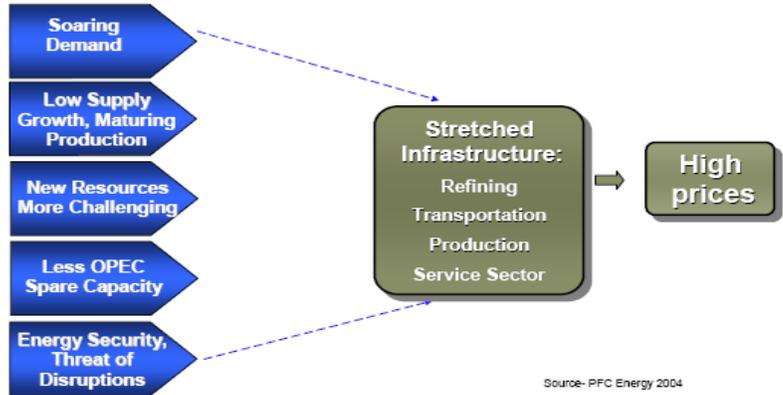
Coupled with OPEC’s spare capacity issue are a number of other challenges for the international petroleum industry. The list of major issues put forth in testimony by Robin West, President of Petroleum Finance Corporation before the U.S. Congress in 2004, highlight the challenges the oil industry faces. The relative importance of each issue grows and retreats depending upon market conditions, but the list encompasses the principle issues.

Exhibit 17. There Are Many Reasons For High Oil Prices

Forces Driving Oil Prices Higher



The list of major issues highlights the challenges the oil industry faces



Source- PFC Energy 2004

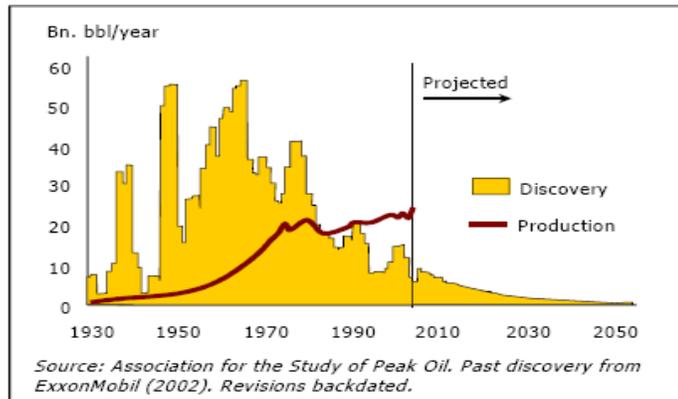
Source: PFC Energy

Source: PFC Finance

Oil companies will demand higher profits from higher prices to justify the capital investment that will need to be spent to bring these supplies to market

As mentioned before, the rate of new oil discoveries is woefully trailing our growth in oil production. If the projection for the volume of future annual discoveries is correct, or even anywhere near correct, then oil supplies will become an even bigger influencing factor on future oil prices. That's because our alternative supplies of oil and oil-like resources are more challenging to develop. That means they will cost substantially more to get out of the ground and turned into consumable oil products. Oil companies will demand higher profits from higher prices to justify the capital investment that will need to be spent to bring these supplies to market. This phenomenon is best demonstrated by the economics of new oil sands developments in northern Alberta province of Canada when compared against existing facilities and against the cost to develop new oil in Saudi Arabia.

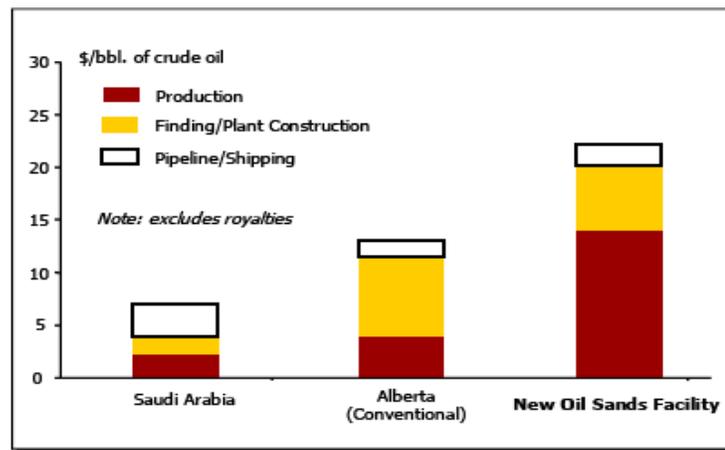
Exhibit 18. Oil Discoveries Are Lagging Production Growth Discoveries Replacing Less Than Half of Production



Source: Association for the Study of Peak Oil. Past discovery from ExxonMobil (2002). Revisions backdated.

Source: CIBC

**Exhibit 19. Oil Sands Costs Highlight Oil Industry Challenge
Cost Structure: Conventional vs Tar Sands**



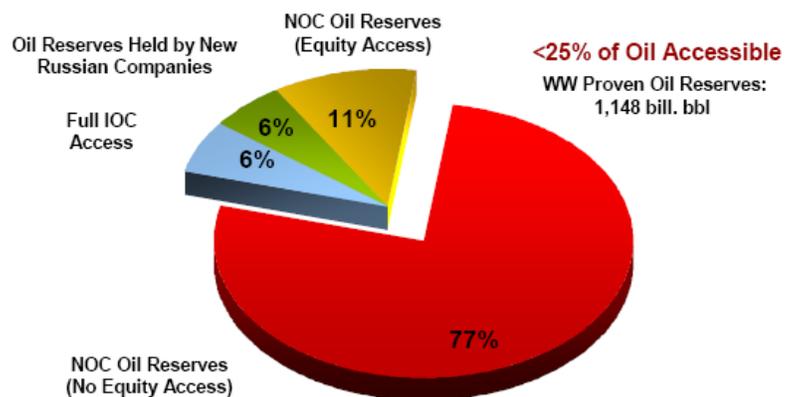
Source: CIBC

Western independent oil companies are no longer able to seek new oil supplies anywhere in the world

Access to the remaining conventional oil resources in the world has become a much bigger issue in recent years. That is due to the fact that the western independent oil companies are no longer able to seek new oil supplies anywhere in the world. Increasingly, their search is being restricted to countries with old and picked over oil fields. Compounding this problem is that many of the national oil companies are not staffed with people as talented as found in the independent oil companies. This talent imbalance has opened up a huge potential market for the oilfield service companies who can sign on as the manager of projects without creating political issues from a need to own oil reserves or control the flow of the oil.

Exhibit 20. Access To Oil Resources Is A Major Challenge

National Oil Companies Control the Oil Proven Reserves...



...As a result International Oil Companies are rule takers and price takers; have limited access to oil reserves

Source: PFC Energy

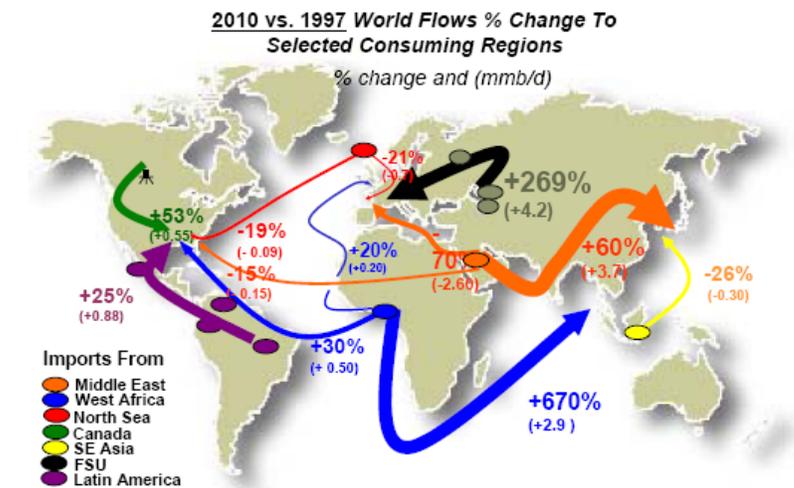
Source: PFC Energy

Each of these regions has significant political problems that could disrupt the flow of oil from the region and impact the price of oil substantially

Political issues around the world have contributed to crude oil price variations. Much is made about how much of the current price of a barrel of crude oil is the result of the political problems around the world. The map of the changing flows of oil over the 13-year period from 1997 to 2010 demonstrates the growing importance of Middle East, West African and Russian oil resources. Each of these regions has significant political problems that could disrupt the flow of oil from the region and impact the price of oil substantially. That risk is already captured in today's crude oil futures price, but we cannot state with certainty what that number is. Estimates of \$20-\$30 per barrel could be correct.

Exhibit 21. More Oil Will Come From Unstable Regions

Increasing Dependency From Less Stable Areas



Do Not Include The Totality of Suppliers. Only the Most significant flows are shown. Source: PFC Energy
 The Map Includes Exports from Canada, Latin America, Middle East, North Sea, West Africa, West Africa, FSU to Selected Regions

Source: PFC Energy

Investors cannot just focus on industry fundamental trends to determine what is happening to energy company stock prices they must also be aware of stock market dynamics

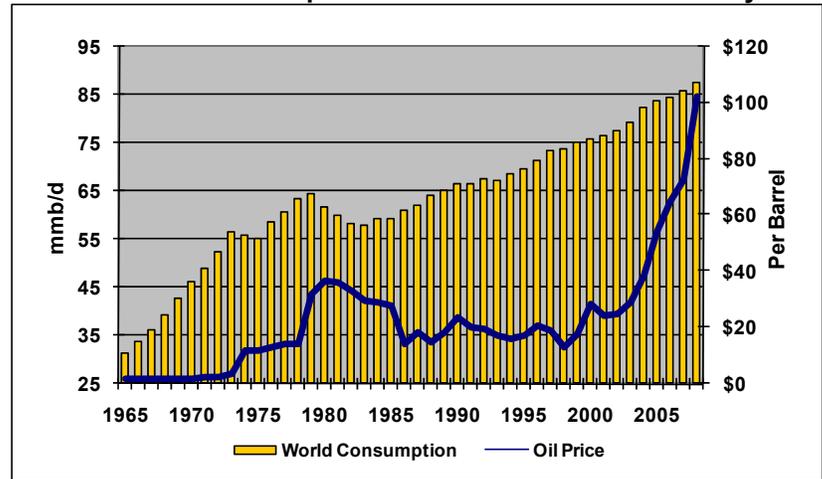
We believe there are many issues today that are both similar to and quite different from those that contributed to the oil industry bust of the 1980s. Those issues impacting global oil supply appear to be the stronger factors underlying current oil and energy industry trends and supporting high current oil prices. But we believe one cannot just focus on industry fundamental trends to determine what is happening to energy company stock prices. Investors must also be aware of stock market dynamics. That was probably the key lesson we learned from the market environment that coincided with the end of the 1970s oil stock boom. Let's review what happened with the energy industry and its stocks since the 1970s and examine current stock market conditions.

From the mid 1960s, oil consumption has grown steadily. What is clear about the growth in consumption is the faster rate of increase until the late 1970s when the world experienced a period of falling consumption in reaction to the sharp price increases experienced in 1973-4 and 1979. But once the global economy adjusted to the

Are we seeing signs of true demand destruction?

higher prices and introduced more energy efficient automobiles, appliances and industrial processes, world consumption resumed its growth, albeit at much slower rate. After jumping in 2004, the pace of oil consumption growth has slowed even more just as oil prices have marked their steepest rise. Are we seeing signs of true demand destruction?

Exhibit 22. Oil Consumption's Growth Has Slowed Steadily

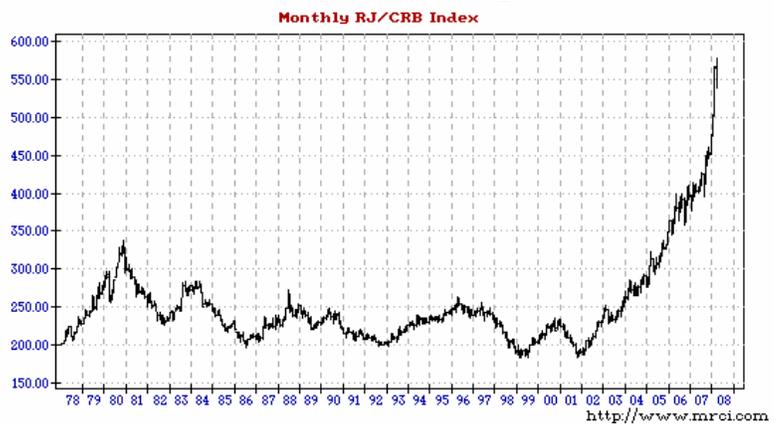


Source: EIA, IEA, PPHB

Commodity prices began rising in 2002 and exploded to the upside beginning in the second half of 2007

When we look at current developments in the commodity markets we find a dramatic trend. After essentially remaining flat to slightly declining since 1978, commodity prices began rising in 2002 and exploded to the upside beginning in the second half of 2007. Whether this is a developing bubble remains to be seen, but it bears watching.

Exhibit 23. Is A Commodity Bubble Being Created?



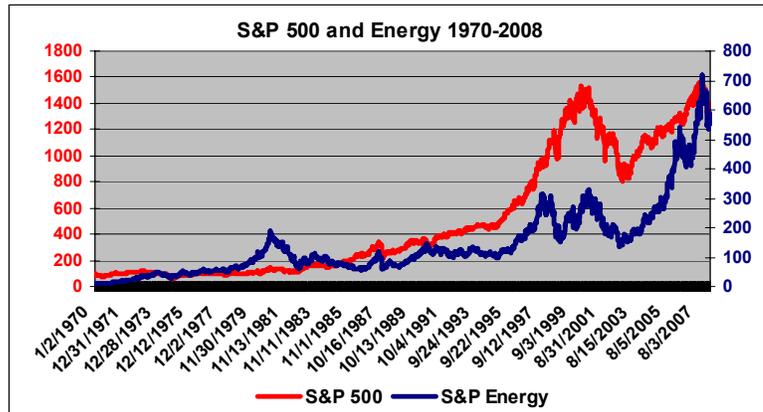
Source: Market Research Commodities

Over the 30-year period of 1970 to 2000, the overall stock market outperformed energy except for the brief period in the latter half of the 1970s. Since 2000, however, the overall stock market has

Since 2000, however, the overall stock market has gone nowhere

gone nowhere after falling significantly coinciding with the dot.com bust and the 9/11 attack. But during that time, energy stocks have clearly outperformed the overall market largely in response to the upward movement in commodity prices and oil prices in particular.

Exhibit 24. Energy Trailed Market Performance For Years

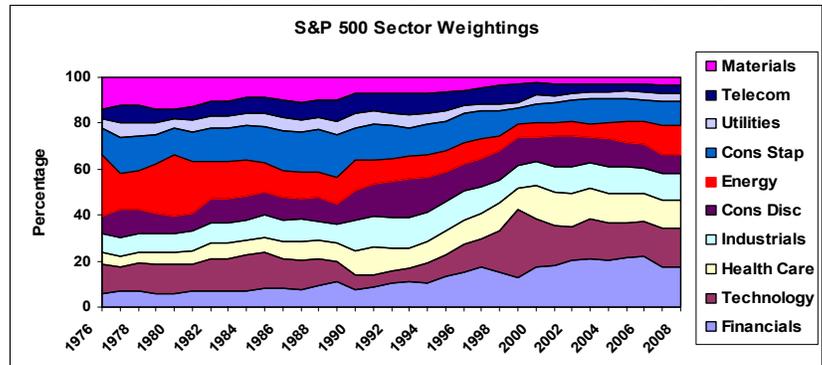


Source: Global Finance, PPHB

In 1968, the energy component of the S&P 500 index was about 14% reflecting the importance of oil companies, especially with their large dividends, during the 1960s

The performance trends for energy and the overall stock market are mirrored by the shifts in investor sentiment toward market sectors. In 1968, the energy component of the S&P 500 index was about 14% reflecting the importance of oil companies, especially with their large dividends, during the 1960s. As the oil boom developed during the 1970s, the importance of energy in investor portfolios rose to the point that it represented 27% in 1980. By the oil price bust in 1986, the energy component had been cut in half to 13%. Energy accounted for a shrinking proportion of investor portfolios as the 1990s unfolded while technology and its associated sectors grew in importance. The fall in oil prices to the \$12 range in 1998 during the Asian currency crisis helped bring the weighting down to 6%. With the rise in energy prices and the stocks in the current decade, the energy weighting has climbed back to just under 13% currently. So despite energy stocks having outperformed the overall stock market,

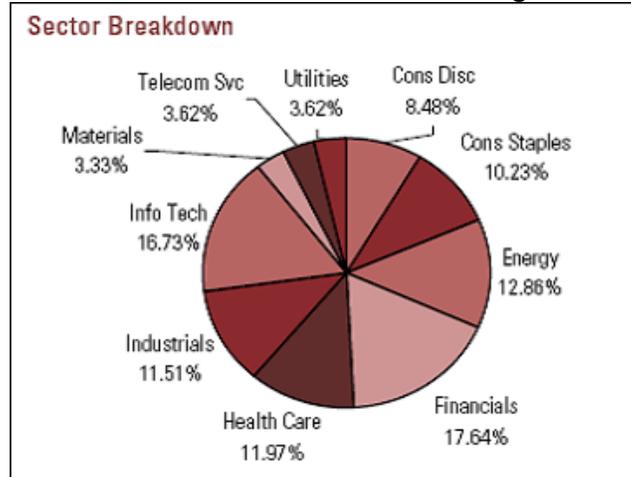
Exhibit 25. Energy Today Is Only Half of 1970s Weighting



Source: Barra, S&P, RBC, PPHB

those in charge of recommending the appropriate weighting for industry sectors in investor portfolios seem determined not to fall in love with energy as happened in the 1970s. It seems that they remain strongly in favor of a continued high weighting for technology and financials. The problems in the credit markets suggest that the past weighting mistakes of energy and technology sectors may not have been learned, given advisors' current financials weightings.

Exhibit 26. Current S&P 500 Sector Weights

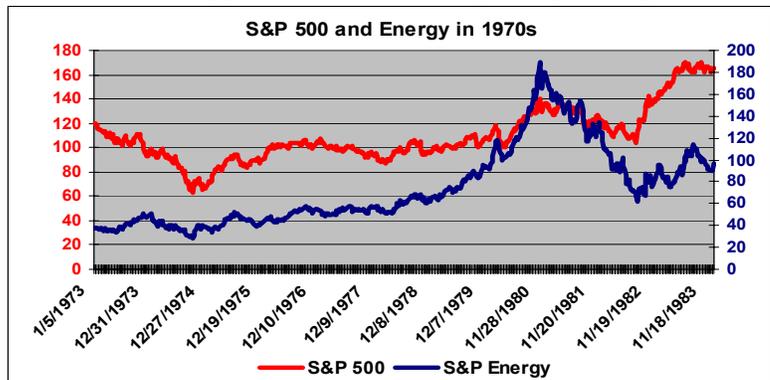


Source: Standard & Poor's

Energy stocks started rising in 1977 and accelerated their climb as geopolitical events highlighted the growing risk to oil markets

Below are charts showing the relative performance of the overall stock market and energy stocks during the oil boom period of the 1970s and since 2000. These charts are designed merely to show how the two indices have performed during the respective time periods. We also show charts of the performance of the stocks and oil prices during the respective periods. When one examines the performance of energy stocks during the 1970s it is interesting to observe that the overall market showed a sharper recovery from the 1973-74 recession, but then failed to advance much for the balance of the decade. On the other hand, energy stocks started rising in

Exhibit 29. Energy's Performance Helped By Rising Oil Prices



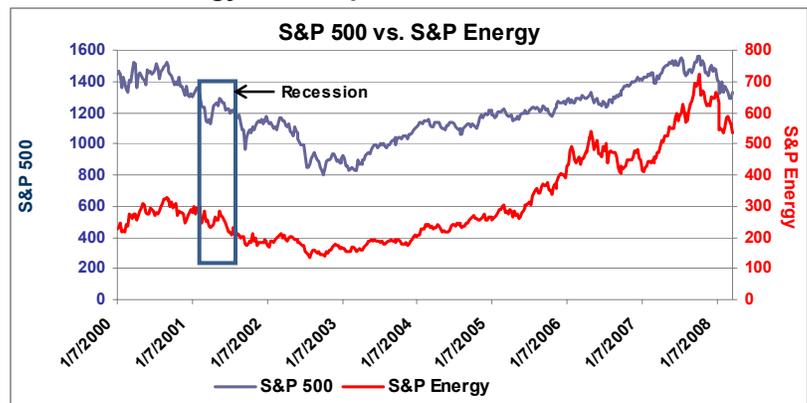
Source: Global Finance, PPHB

As oil and commodities began their rapid ascent, energy stocks took off

1977 and accelerated their climb as geopolitical events highlighted the growing risk to oil markets (the fall of the Shah of Iran and the rise of a radical theocracy) that ultimately resulted in an explosion in oil prices in response to the embargo of Iran's oil to world markets.

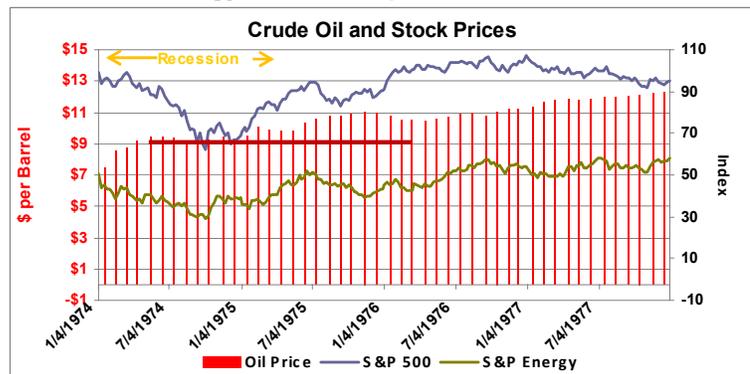
Unfortunately in this decade so far, we have seen energy stocks outperform the overall stock market during the recession of 2001 and the subsequent two years. However, the overall market outperformed energy in 2004 before energy stocks started to perform more strongly. As oil and commodities began their rapid ascent, energy stocks took off and markedly outperformed the overall market.

Exhibit 30. Energy Has Outperformed; Not As Much As 1970s



Source: Global Finance, PPHB

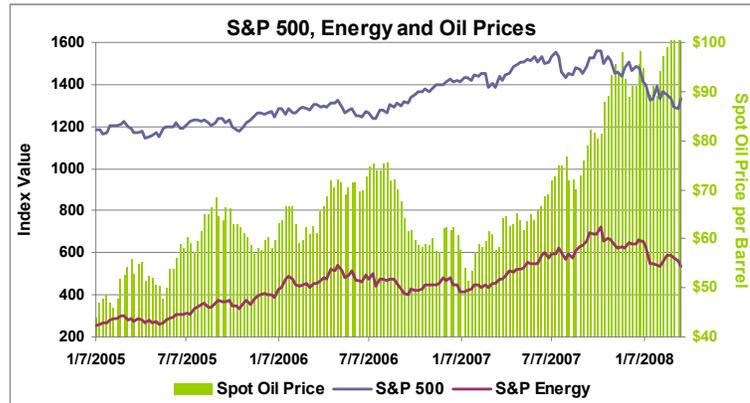
Exhibit 31. Energy Stocks Outperformed in the 1970s



Source: Global Finance, EIA, PPHB

There is compelling evidence that the recent pattern and performance of energy stocks is mirroring their record in the 1970s

What should we conclude about the future for energy stocks? It might seem that all this information has done little but cloud the issue and the conclusion. On the other hand, there is compelling evidence that the recent pattern and performance of energy stocks is mirroring their record in the 1970s. However, the macro oil industry supply and demand factors strongly suggest that the world does not have the cushion of supply that existed in the 1980s. That coupled with continued population and economic growth provide a

Exhibit 32. Energy Beating Market in Recent Years

Source: Global Finance, EIA, IEA, PPHB

We think energy stocks still have room to contribute positive returns to investor portfolios

While the world has a huge latent energy demand growth potential from the rise of the BRIC economies, what energy technology is out there that might help them to leapfrog the historical relationship between growth in energy consumption and economic growth?

high degree of comfort that energy prices will remain strong and drive earnings and cash flows of energy companies. Growing earnings and cash flows should support higher stock valuations. Therefore, we think energy stocks still have room to contribute positive returns to investor portfolios, but more than likely the bulk of energy stock appreciation has already occurred.

We'd like to think we are wrong about our energy stock returns conclusion. What we fear is the black swan that is out there that could alter our view of future energy industry fundamentals. We, like OPEC, are paying increased attention to the growth of alternative fuels and consumer energy consumption patterns. While the world has a huge latent energy demand growth potential from the rise of the BRIC (Brazil, Russia, India and China) economies, what energy technology is out there that might help them to leapfrog the historical relationship between growth in energy consumption and economic growth? At the end, though, we are reminded of an observation made by Jay Collins, CEO of Oceaneering International (OII-NYSE) to us when we were discussing the outcome of conflicting trends. He said, "My head says one thing but my gut says something different." Our conclusion is based on our head. For the time being, it will override our gut.

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