



**FINANCIAL ADVANTAGE, Inc.®**  
*for a better life®*

## The *Blue Sheets*®

*Our quarterly commentary on the economy and securities markets*

*Spring 2006*

### “Black Gold”

*Come and listen to a story 'bout a man named Jed  
A poor mountaineer, barely kept his family fed,  
Then one day he was shootin' at some food,  
And up through the ground came a bubblin' crude!  
Oil, that is; black gold, Texas tea.*

*From The Ballad of Jed Clampett*

Those of us old enough to have savored the cultural delights of network TV between 1962 and 1971, will doubtless remember the Beverly Hillbillies. Perhaps you can still sing along with the Ballad of Jed Clampett (above), which recounts the saga of those lovable mountain folk who parlayed an accidental oil fortune into a posh Beverly Hills address where they never quite fit in with their uppity neighbors. The decade-long TV series ran out of gas, ironically, just as Texas oil production peaked and began a long, slow decline, passing the mantle of power to OPEC, the Clampetts of the Arabian Desert.

Back in 1974, Americans from California to New Jersey grouched about waking at 5 AM to get in line for gasoline, but we had no idea of the magnitude of the global power shift that was just getting under way. In this issue of *The Blue Sheets*®, we'll explore the new realities behind the soaring price of black gold and the implications for U.S. investors.

#### **A History Lesson**

While Jed, Granny and Elly May were shaking up Hollywood, crude oil sold for \$2.50-\$3.00 a barrel and gasoline for about 20 cents a gallon. In those halcyon days, when competing gas stations lured motorists with offers of steak knives and stemware, the U.S. produced most of its own transportation fuel, mainly from Texas, Oklahoma and Louisiana. Year after year, the nation's auto fleet swelled; but when domestic oil production peaked in 1971, U.S. refineries began to need *imported* crude to meet the public's insatiable demand for high octane. Fortunately, enormous oil fields had already been discovered and developed in the Middle East, so life went on.

The western world was shocked when, in October 1973, Syria and Egypt attacked Israel. The U.S. and other nations declared their support for Israel, and Arabian members of OPEC retaliated by slashing exports to those offending countries, reducing world production by 7% or 4 million barrels per day (MMBPD). Crude prices shot up an astounding 300% in 6 months, from \$3 to \$12, dramatizing for all the world to see how sensitive prices had become to supply disruptions, and the degree to which power had devolved upon the desert monarchies which owned all the excess capacity.

*Twelve dollar oil and \$1 gasoline helped precipitate a U.S. recession, a 2-year, 43% plunge in U.S. stock prices (1973-74) and double digit inflation and interest rates in the late '70s and early '80s.*

In 1979, a bloody uprising in Iran birthed a new Islamic Republic that reversed the westernization of that important oil producer. The ensuing turmoil slashed Iran's crude production by 2 MMBPD. The next year, Iraq invaded what they believed to be a weakened Iran, clobbering world oil output by a stunning 10% in one year. By 1981, in what we now call the "second OPEC crisis", world crude prices had spiked again, this time to \$35 a barrel, *eleven times* the price that made Jed Clampett a rich man in 1962!

During the 1980s, OPEC tried to stabilize oil prices by controlling members production, but was unable to enforce the group's quotas. Saudi Arabia, owner of the largest reserves and largest spare capacity, became OPEC's swing producer by default, cutting their own exports whenever prices needed support. In 1985, the Saudis apparently tired of this role; they more than doubled their own production from 2 to 5 MMBPD, causing the bottom to drop out of world prices. Oil fell from \$28 to about \$12 in a few months! For the next 15 years (1985-1999) oil traded mostly between \$15 and \$20, spiking briefly to \$30 during Desert Storm in 1991 and plunging briefly to \$10 during the Asian currency crisis in 1998, even though Saudi Arabia slashed its exports in an effort to support the price.

During those 15 years, world oil consumption rose steadily, mainly due to booming demand in Asia;

OPEC production increased about 50% during the period, but non-OPEC output was stagnant. The gap grew gradually smaller between global productive capacity and world oil demand, setting the stage for the price strength which has characterized our new century so far. From a low-\$20s price in 2000 oil has soared past \$70 a barrel in recent months, and gasoline at \$3 a gallon has kept pace.

Today, OPEC's excess production capacity is believed to be only a little over 1 MMBPD compared with 6.5 MMBPD as recently as the summer of 2002. Against total world demand of more than 80 MMBPD, this is a tiny cushion, making oil buyers particularly sensitive to the possibility of supply disruptions, especially given the background of global political tensions (Iraqi instability, the contest over Iran's nuclear aspirations, Venezuela's hostility toward the US and the violence in Nigeria).

*Refiners the world over are eager to secure crude oil supplies despite record prices. Until global spare productive capacity becomes larger relative to ongoing demand, we think it may be the better part of valor to expect continued high prices.*

If total world oil production should actually begin an irreversible decline, oil prices would continue rising until the high cost forces demand lower. Could this actually happen?

## **Peak Oil?**

The history of oil teaches several valuable lessons.

First, perhaps, is that this commodity is so essential to the stability and growth of modern industrial economies that access to it will remain at the top of every government's international agenda. Wars have been and likely will be fought again over oil. Since so much of current production is from regions that are ideologically opposed to the United States and its allies, many observers believe the opportunities for a peaceful allocation of an increasingly scarce resource are slim.

Second, the price of oil in the short run is very sensitive to the spread between current world demand and the current world production

capability. As observed by Woody Brock, President of Strategic Economic Decisions (www.SEDinc.com), both the *supply* and the *demand* for oil are inelastic, which results in a very volatile pricing environment.

When rising world *demand* bumps up against supply limitations, since there is currently no viable substitute for oil in most applications, a rising price is the only escape valve for the pressure. Ditto in reverse; when daily oil *production* swamps demand, either producers must hold back or the market price will collapse. OPEC, long referred to as a “cartel”, has not really been able to function like one since Saudi Arabia has been the only member nation willing to limit its production in order to support prices. Today oil trades at the \$70 level mainly because productive capacity only exceeds demand by about 1 MMBPD, versus a 6.5 MMBPD gap four years ago.

Third, supply is finite. Until substitutes for oil become economically viable, demand seems destined to grow faster than supply.

Oil *demand* keeps rising because of the rapid growth of what Goldman Sachs has dubbed the BRIC economies (Brazil, Russia, India and China) where billions of people are struggling toward the middle class lifestyle long enjoyed in OECD countries; think *cars and planes*, since transportation accounts for 2/3 of oil demand. These countries are building highways, auto factories and refineries as fast as they can.

Oil *supply*, on the other hand, is constrained by:

- The natural depletion of existing oilfields

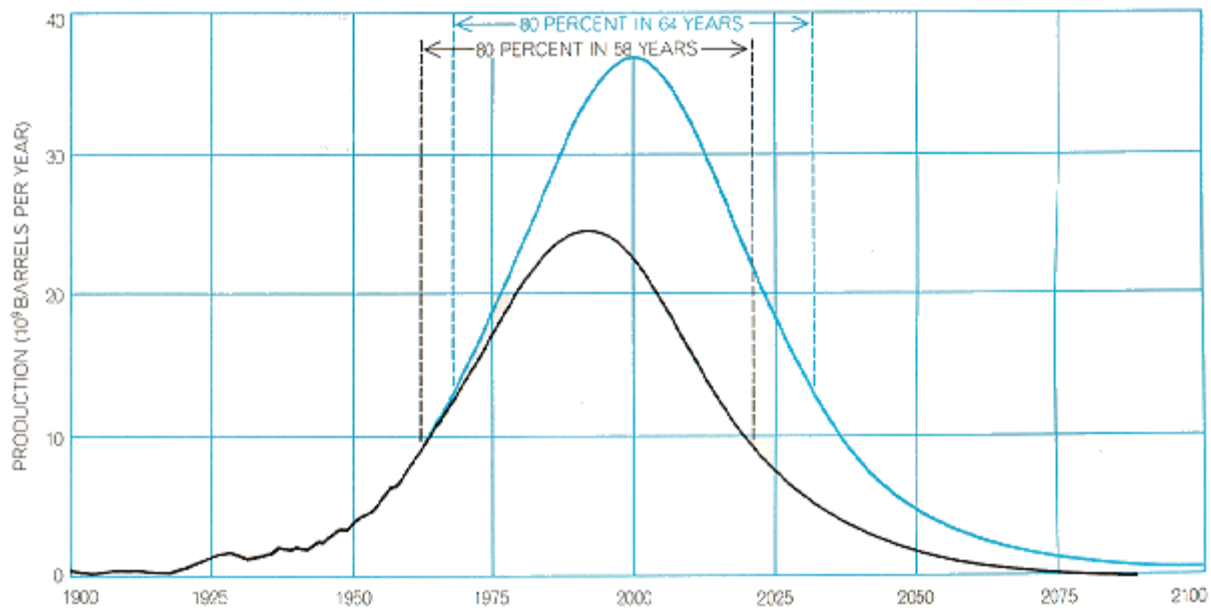
- A steady, long-term decline in the rate of new discoveries
- Political turmoil in producing countries which frightens away development capital

These realities have led many industry analysts to conclude that we are already or will soon be living in the twilight of global oil production.

*Whether world oil production is at or near its all-time peak, to be followed by a permanent decline, is a terribly critical question. Industry experts are lined up on both sides.*

The possibility of a permanent long-term decline in global oil production is often summarized in the expression, “Peak Oil”, so called after the work of geophysicist Dr. M. King Hubbert (1903-1989). His now-famous study of the life cycles of known world oil reserves was first presented to the American Petroleum Institute in 1956, forecasting that U.S. oil production would peak between 1965 and 1970. His work proved uncannily accurate, as U.S. oil output peaked forever between 1970 and 1971. Hence, his later forecast that total world output would peak early in this century has been taken much more seriously by scientists and analysts who have access to more current and more sophisticated data than did Hubbert in 1956.

Following is Hubbert’s 1971 chart estimating the peak of world oil production in the year 2000 based on the then most optimistic estimates of the total amount of oil that would ever be extracted from the earth.



CYCLE OF WORLD OIL PRODUCTION is plotted on the basis of two estimates of the amount of oil that will ultimately be produced.

The colored curve reflects Ryman's estimate of  $2,100 \times 10^9$  barrels and the black curve represents an estimate of  $1,350 \times 10^9$  barrels.

from *Energy and Power*, A Scientific American Book, 1971, pg 39

### “Are we running out of oil?” is the wrong question!

Sensationalist and sometimes irresponsible journalists and investment newsletter writers often pose a headline such as, “The World Is Running Out of Oil!”. Sometimes there is an agenda behind these stories, such as to encourage some specific investment action or to lobby for some alternative fuel subsidy program. Sometimes it is just ignorant reporting. The truth is that there is a huge amount of oil still trapped in the earth’s crust. But the amount of oil in the ground is not the critical issue if one is interested in the future price and availability of transportation fuel and feedstocks. For insight into these critical unknowns, the main variables that need to be analyzed are:

- a) Likely annual oil production that can be refined into products the market demands
- b) The quality of the crude oil produced (specific gravity, sulfur content)
- c) The likely annual demand for petroleum products
- d) The spread between annual demand and the industry’s productive capacity

Peak oil studies such as Hubbert’s and more recent ones represent efforts to forecast the shape of the

production curve over time. They take into consideration the likely pace of new oilfield discoveries, the typical production life cycle of oil fields in different parts of the world and in different geological structures, and the impact of new technologies on both exploration and production of oil.

With respect to *discovery* of new fields that might be brought into production in the future, a harsh reality that is frequently overlooked by optimists is that for the last 40 years the rate of discovery of new reserves has steadily declined. In recent years, the industry has been discovering only about 1 barrel of new reserves for every four barrels extracted from existing fields, in spite of great strides in seismic and other exploration technologies. The super giant oilfields of the Middle East were discovered more than 70 years ago. The first of the enormous North Sea reserves and the giant Prudhoe Bay fields, the largest in North America, were both discovered in the 1960’s, and both are already well past their productive peak. The expert consensus seems to be rather negative with regard to the possibility that new discoveries will significantly brighten the outlook for oil production... ever.

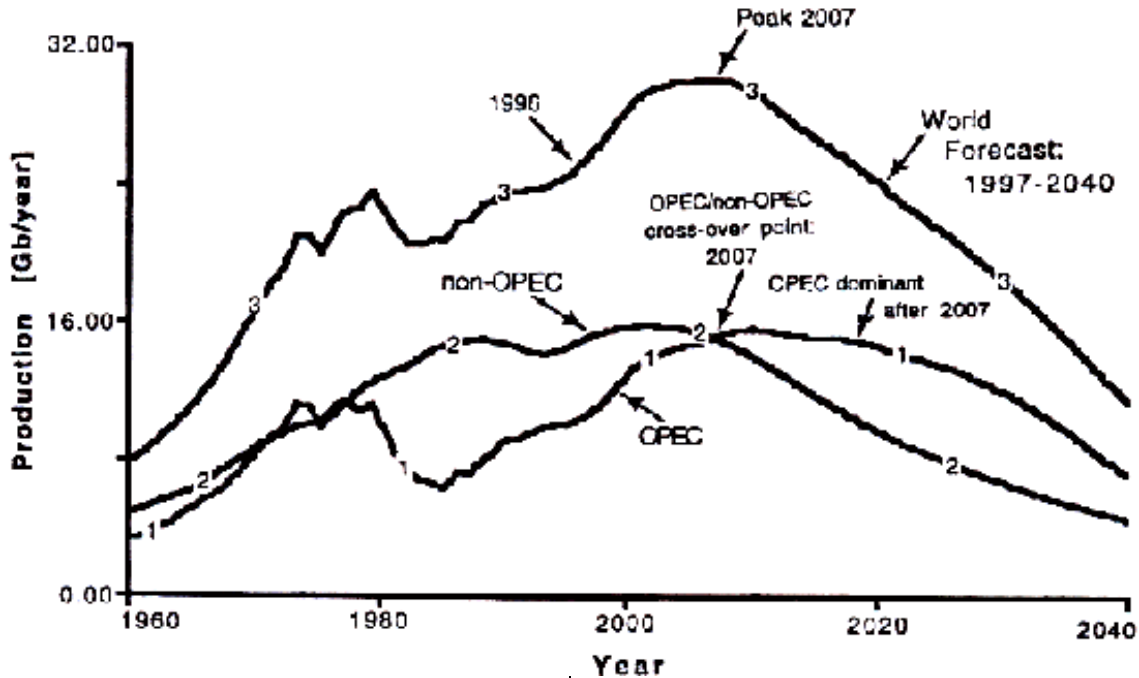
Oil production has been aided greatly by *technology* the past several decades. Some innovation actually does increase the percentage of

the oil in the ground that can be profitably extracted, prolonging the useful life of a well. Other technology, though, only accelerates the pace of extraction, actually shortening the time to peak output and steepening the rate of its inevitable decline. While innovations in the oil well service industry have been remarkable, it is far from a given that technology will rescue the supply curve from its inevitable decline.

Following is an updated version of Hubbert's original Peak Oil chart, this one prepared in 1999 by

Richard Duncan (petroleum engineer) and Walter Youngquist (professor of geology), who have tried to take into consideration both the impact of technological advances and the likely rate of new discoveries. They project that the world will never produce more oil in one year than it will in 2007.

Note also that after 2007 OPEC production is larger than non-OPEC output.



Not a few theorists believe the peak has already passed. In its "World Energy Outlook 2004" the International Energy Agency (which has had, if anything, an optimistic bias in its appraisal of world oil production) reported that 33 of the world's 48 largest producing countries are already in (presumably permanent) decline. In the fall of 2005, a spokesman for Saudi Aramco, the largest oil company in the world, admitted that output from its mature fields is declining by 8% a year and that the nation's overall production, including its newer fields, is shrinking by 2% a year, *implying that Saudi production may have already peaked!* Enormous fields in Kuwait and Mexico (including the Cantarell, the world's largest offshore oilfield) have already passed their production peaks.

Indonesia, the only Asian member of OPEC for over 40 years, is considering withdrawing from the Organization of Petroleum Exporting Countries because a decade-long decline in its output has caused it to become a net *importer* of oil! Due to the natural depletion of existing fields, Indonesia's oil production has been declining 5% a year for ten years and now totals less than 1 MMBPD.

All of this recent information lends credibility to Hubbert's Peak Oil thesis and to Matthew Simmons' 2005 best seller, "Twilight in the Desert". In this 400-page, thoroughly documented

study of the Saudi oil powerhouse, Simmons concludes rather forcefully that Saudi Arabia will only produce in nearby years about half what

international energy planners and policy experts have optimistically forecast. A nearby Saudi decline would be a shock to policy makers, he says; and presumably to the markets as well.

### **Implications of Peak Oil**

If a peaking of world oil production is a serious possibility in nearby years, and if end- demand continues to grow even modestly, it seems prudent to assume that \$70 oil is not a fluke and that it may well work considerably higher before it eventually forces a retrenchment in global demand for conventional oil. This is actually our working assumption today. But of course, things can change!

On the *demand* side, one of the obvious things that could change is the onset of a serious global recession. While gasoline at \$3 a gallon has caused a sort of hue and cry among U.S. consumers and politicians, we don't think expensive oil alone will cause a consumer spending retrenchment. After all, Europe seems to manage its own version of economic normalcy while consuming gas at twice that price.

However, if oil should become even pricier, it may soon begin to boost the level of general inflation both here and abroad. Rising inflation would probably pressure central banks to raise interest rates, which could precipitate a slowdown or recession. In the United States, where a strong housing market has underpinned an extraordinary level of consumer spending for several years, rising interest rates could be the straw that breaks the camel's back (See Blue Sheets, Summer 2005, "Home Sweet ATM".) A consumer-led US recession certainly has the potential to impact the export-sensitive economies of China and the surrounding countries. Our view is that, barring a severe financial crisis which could do long-term damage, a global recession would result in a temporary sharp decline in oil prices and a retreat in oil company stocks. We would expect to use that as an opportunity to add to our energy positions at even more attractive prices because the long-term positives are so compelling.

What else could change? On the *supply* side new discoveries are always a possibility. Two areas that seem to have some surprise potential are the Gulf of

Mexico and countries separated from the Former Soviet Union (FSU), mainly Kazakhstan and Azerbaijan. Obstacles to expanding Gulf reserves include political hurdles and steep capital requirements. In the FSU, distance to market and barriers to foreign investment can slow things down. Surprise discoveries in these areas could conceivably impact the supply demand balance, but with a lag of a few years required to achieve development.

Longer-term, of course, the world is likely to source more of its energy needs from less conventional (more expensive) sources of hydrocarbons such as tar sands and the conversion of plants to ethanol, and ultimately from solar and nuclear power.

### **Current Investments**

To complement our mutual funds that focus on the energy industries, Financial Advantage has identified and invested in the shares of several individual companies whose prospects are directly tied to the energy business. We have frequently described our confidence in **Apache**, an independent oil & gas exploration and production company. We'll conclude this issue, with a description of one of our newer investments. **Dresser-Rand Group** (DRC 24 NYSE) designs, builds and services compressors and turbines for the world's energy infrastructure. We believe they are the largest in the business, having built about 40% of this sort of rotating equipment that is currently operating in the field worldwide. Dresser-Rand's equipment is critical to the operation of an amazing array of energy related processes from offshore drilling rigs and production platforms to pipelines and LNG terminals, coal gasification plants, and refineries of all sorts including those for the processing of tar sands. One of our favorite investment characteristics is that Dresser-Rand benefits from capital investment in just about every aspect of the energy industry whether conventional or alternative.

During the 15-year period of underinvestment in energy infrastructure, the former Dresser Industries and Ingersoll Rand were taken private and parts of their businesses spun off, leaving their combined compressor and turbine business that supply the energy industry in more than 100 countries. Last

summer the new company re-emerged as a publicly held entity and shares have traded in the low-mid twenties since that time.

Helped by the surge in profitability of oil and gas businesses, capital spending on infrastructure has begun to accelerate and DRC's order backlog has turned up significantly. It has been our experience that once a cycle turns up it tends to last for a period of years. Pricing, as would be expected, is getting much better so we foresee an increase in both sales and profit margins during at least the next several years.

Wall Street has a funny relationship with capital goods companies. They are typically followed by relatively new analysts who have not experienced the dramatic effects of operating leverage on the profits of a company with high fixed costs. Early in a capital goods cycle this tends to produce too-low Wall Street earnings estimates and a string of upside earnings surprises, to the delight of shareholders.

Dresser-Rand recently reported operating margins of 22% in its maintenance business but a small operating *loss* in its new equipment business. As recent orders, booked in a seller's market environment, flow through the revenue line, we expect dramatic improvement in margins. We believe that earnings per share can leap from \$0.56 in 2005 to about \$2.75 the year after next. If we really do see evidence of a permanent peak in oil production and a further leap in crude prices, this could be a very long cycle for Dresser-Rand and a very good investment for our clients.

*Well now it's time to say good-bye to Jed and all his kin.  
And they would like to thank you folks fer kindly droppin' in.  
You're all invited back again to this locality  
To have a heapin' helping of their hospitality. Hillbilly, that is. Set a spell. Take your shoes off. Y'all come back  
now, y'hear?*

*For the Investment Committee:  
J. Michael Martin, J.D., CFP  
June 5, 2006*

**DJIA 11,048**

**S&P 500 1265**

**NASDAQ 2169**

**30-yr Treasury 5.11%**