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High Octane: A Primer on the Economics of the Energy Crisis, 1990

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HIGH OCTANE?

**A Primer
on the
Economics
of the
Energy Crisis**

by
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Private Enterprise Education
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A

Commemorative Issue

marking the

Fifteenth Anniversary

of

THE ENTREPRENEUR

a quarterly newsletter

of the

Belden Center for
Private Enterprise Education

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HIGH OCTANE?

A Primer on the Economics of the Energy Crisis

by

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In the late 1970's, the service station attendant said, *"Fill it up?"* Reluctantly, I replied, *"Fill it up."* He opened the cash drawer and said, *"Fill it up."* I filled it up. Then he filled my gas tank, doubling the value of my old, gas guzzling car.

By the mid 1980's, the pendulum had swung to the other extreme. I breezed into the service station in my new, fuel efficient model and happily challenged the attendant to *"fill it up."* He moaned, *"I haven't seen gas prices this low since it was put in the trolling motor of Noah's ark."*

Today, those high gas prices again make us feel as if we are *"paying through the hose."* Aside from trying to face the current energy crisis with a sense of humor, fact is, gas is \$1 more per gallon in Canada--\$2 more in parts of Europe. Most of that price differential is attributed to the size of the respective countries' gas tax.

Examining the situation closer, the news as the pump gets even better. After adjusting for inflation, current gas prices are on a par with the prices that fueled our 1950 cars. In real terms, we have the least expensive gas in the industrialized world. In 1930, the average pay for an hour of factory work would purchase about 3 gallons of gasoline. Today, wages for that hour's work will buy about 8 gallons.

What really drives gas prices? Replacement costs, spot market prices, and buy-seller psychology will always determine feedstock prices downstream into refineries, wholesale markets and retail outlets. Prices at the pump usually rise 2.5 cents per gallon for each \$1 increase in crude oil prices.

Is America Acting Fuelish?

Have we been "*fuelish*"? Not really. We have grown 54% in real GNP since 1973; and we did it with only 9% more energy. We're not "*energy pigs*" any more than our children whom we push to go on in school are "*education pigs*". Yes, we use 25% of the world's oil flow. We also produce (and sell to ourselves and others) 25% of the world's goods and services.

Do we realize how far we've come? Our 1990 cars go twice as far on a gallon of gas compared to 1973 (28.3 vs. 14.2). Trucks have shown a 50% improvement. The equipment in our houses, cars, factories, aircraft are 30% to 60% more efficient than 20 years ago. Total residential fuel bills have held steady for the last decade, despite an increase of 20 million dwellings (a 25% gain in total dwellings).

These improvements put us ahead of every major Western trading partner, and almost equal with Japan, in terms of energy efficiency gains. Japan has one-fifth the cars and a total land mass that would fit inside the state of Montana. This is a tremendous achievement, considering the topographical size and diversity of our land and population. Oil now powers 6% of our electrical energy, compared to 17% in 1973. We have come a long, long way in just a decade and a half.

Quietly since 1973, we have weaned ourselves partly away from the Persian Gulf oil. By the summer of 1990, 11% of our total U.S. consumption of oil was from the Persian Gulf--Iraq (2.6%), Kuwait (1.0%), and Saudi Arabia (7.1%). Another 11% comes from non-Arab OPEC members. And the remaining 23% comes from other countries. All total, we import 45% of our oil.

We have been pumping oil domestically for 130 years. We are down to averaging 19 barrels a day from our American wells, compared to 240 barrels per well each day in the Persian Gulf. So where do we go from here? Our strength and future is in coal, natural gas, and nuclear. With environmental considerations, we will also have to tap into our Western off-shore continental shelf for new, major oil reserves.

The Sun Will Still Rise

Beyond that, the sun is expected to shine for several billion years. Nuclear fusion creates its own fuel. The oil shale of the mountain states, although not commercially recoverable below \$60 a barrel, may rival the Mid East reserves. One hundred billion barrels of oil are estimated to be in America's continental shelves. Oil, natural gas, gasoline and methanol can be synthesized from coal, as was accomplished by Germany during World War II. We are the Persian Gulf of coal.

To be sure, America's primary economic goal must be to guarantee a stable supply of reasonably priced oil. Two-thirds of the world's oil stock is in the Persian Gulf, as is one-fourth of the world's current flow of crude oil. Those oil imports which came from Iraq and Kuwait are being replaced in the short run by switching purchases. Sustaining these adjustments in the long run will be difficult, everything considered.

Our lack of resolve to tap our own recoverable reserves, combined with our willingness to do business with the Mid East oil cartel, as if a cartel is an honest and legal marketing situation, has contributed to the power and pervasiveness of OPEC for two decades.

Do we have another energy crisis because we still import 45% of our oil and are wasteful? No, the planet's energy crisis is that oil provides 40% of the energy and that two-thirds of known oil reserves are in the Persian Gulf known by its shifting sands of strife for millennia. Not to go unnoticed, the only refinery in the entire Persian Gulf that could produce jet fuel was in Kuwait. This poses no small logistical problem for the allied military buildup.

Oil reserves in Iraq and Kuwait alone are 200 billion barrels. We use 17 million barrels a day. American troops could be in the Persian Gulf for years, decades. We cannot simply withdraw and cross our fingers that there will be no more such crises. We have embarked on a course that will require collective resolve, diplomatic savvy and mega quantities of manpower and equipment. It could also add about 10% to the size of the Federal budget deficit, the allies' contributions notwithstanding.

Oil In The Family

Although domino theories have been out of vogue lately with the thaw in East-West relations, consider this scenario. A major oil cutoff would surely hobble Europe and Japan. As major trading partners, their economic implosion could throw our economy into a freefall.

Abe Lincoln said it best (on the Donahue Show, I think), *"You can 'fuel' all of the people some of the time, and you can 'fuel' some of the people all of the time ... but you can't 'fuel' all the people all the time."*

One big winner in short run? Russia is the world's largest oil producer; oil exports account for 40% of the USSR's hard currency income. The rise in oil prices will partially rescue the Soviet economy. Ironically, that will impair the U.S.S.R.'s primary customers: fuel inefficient Eastern Europe.

If gas prices go up or stay high, what else would result? New England will be hurt the most on heating oil costs. Texas, Oklahoma, Louisiana, Alaska economies will pickup (Mexico, Venezuela, too). Price inflation could rise 1-2%, resulting in less downward pressure on interest rates. US exports could weaken with a stronger dollar--strengthened as it's a safe haven in times of uncertainty. However, that makes exports more expensive.

What about those surging prices at the pump? Price increases for gasoline and heating oil that result from the recent upheavals in the Middle East shouldn't be as great as feared or as high as those experienced during past oil crunches. The price of crude oil rose 400% in 1973-74 and 300% in 1979-80.

How Many Crises?

This is our fourth energy crisis. In 1973, Arab nations refused to sell to Israel's allies, then tripled prices. In 1980, Iran's revolution and the Iran/Iraq war led to panic buying led by Japan, and that resulted in oil prices increasing to an all-time high of \$40 a barrel. In 1986, Saudi Arabia flooded the market, drove prices down to \$12 a barrel and effectively eliminated, for at least five years, some of our recoverable reserves.

Is oil merely *"another commodity"*? No, it powers the engine of our market economy and fortifies our national defense. We cannot have it both ways. We cannot have low-priced, off shore fuel from unstable foreign sources while we sacrifice our strategic defense capability and our own recoverable energy reserves. Pay your money and take your choice.

Economists have long known that quantity available in the marketplace, both supplied and demanded, is always a function of price. We must avoid the temptation of making energy predictions on the assumptions that our stockpile, technology, and environment are fixed. Throughout our history, various crises and technology breakthroughs have had a way of bringing new resources into existence while rendering old ones valueless.

Consider that for a thousand years, approximately 900 A.D. until the 1860's, mankind's principal source of lubrication and lighting came from whale oil. By the time of the Civil War, the relative scarcity of whales and the tandem upward price spike of whale oil led to the development of refining processes for the then so called non-resource crude oil, discovered in Pennsylvania in 1859.

If economists know anything, it's that free markets, when allowed to operate in their own channels, have a way of resolving shortage and surplus conditions. Prices will respectively rise and fall in response to supply and demand conditions.

Creative Juices Will Flow

Simultaneously, entrepreneurs with a good feel for applied science brought the Petroleum Age into full flower. We owe them much of our standard of living (products), our material comforts (heating and cooling), and longevity (medicines from petroleum bases). Only when we try to bypass ordinary market processes and throttle creative juices do we then face a prolonged and protracted energy crises.

Our supply of fossil fuels is finite, but we are certainly not in the last days of the Petroleum Age. Curiously, at frequent intervals over the last 125 years, various government bodies (Revenue Commission, Bureau of Mines, Department of Interior, etc.) have oft

declared the end of our reserves to be 10 to 20 years hence.

Then, new reserves would be discovered, exceeding all previously known reserves and all oil pumped out of the ground to that date. Examples abound from Texas, Oklahoma, and Louisiana 100 years ago to the more recent and major finds on the north slope of Alaska.

Isn't it odd that, internationally speaking, such a slippery thing as oil seems to cause so much friction. The current Mid East crisis has removed the world's cushion of excess petroleum production indefinitely. The global supply system will remain tight, fragile, and vulnerable to further shortfalls in volume and delivery.

Come what may, we the people will have the energy we need, and we will pay for it at rates that, in the short run, may seem like a *"gold arm and a platinum leg."* No doubt we will end up with far more energy at lower prices in the long run if we can avoid so-called quick fix solutions.

Such was the case with the abortive price controls attempted in past decades. Those controls attacked symptoms, were cosmetic, obscured root causes, aggravated shortages, curtailed buyer-seller freedom, masked true market costs, encouraged wastefulness, and discouraged exploration.

In this energy crisis, each of us has a role to play. The problem is, nobody wants a walk-on part. Don't look to more small cars as the answer for everyone. Some of those new models are so small now that when you take one to a car wash, you have to wait for a full load. Make our cars much more compact, and they will be afraid to come out of the garage whenever there's a hawk in the sky.

At best, severe conservation measures might cut in half our growth in energy usage requirements. Such was the case in one hotel recently which posted small signs beside wall switches, *"Oh say, can you see by the dawn's early light? Then turn off this switch!"*

The Energy Facts Of Life In A Nutshell

So, what are the energy economic facts of life? Those who lobby against coal-fired power plants, nuclear energy, off-shore drilling in our own backyard, exploration of mineral rights on federal lands are going to have to be more reasonable, or we'll have to shut down the country and return it to the Indians.

How can we fight back against the painful swings in world oil prices? One approach could be to implement a countervailing tariff whenever the price drops below \$25 a barrel. If the price falls to \$20, the fee would be \$5. When and if the price goes up above \$25 again, this variable import fee disappears. The revenue generated can be used to refill our Strategic Petroleum Reserve.

If the price goes above \$25, oil could be released from the Strategic Petroleum Reserve to dampen the price increase. In effect, we would buy low and sell high, at the expense of the Mid East oil cartel. It's a tough job, and we've got to do it.

America's energy crisis is serious and real, but much good can come from it as has been the case with past crises. Shortages? Yes, from time to time. But there is no shortage of energy reserves waiting to be identified and commercially developed. Then, the 21st Century will also be known as the American Century, and you can take that to the bank.

In the meantime, think of the current crisis as a chance to build your vocabulary. Can you say, "*Petrocession*"? Sure you can. Yes, the bad news is that this is the stuff of which recessions are made. The good news is that we will use less gas going down hill. We will have to make some adjustments. To do my part, I have already re-labelled the three boxes on my desk, "*Intake--Stall--Exhaust*."

As we pull ourselves together and hang loose, are there worse things than another energy crisis? Sure. Having an identity crisis and an energy crisis at the same time: not knowing who we are and being too tired to try to find out.

Pay Your Money—Take Your Choice

Finally, it really does come down to a choice between laughing and crying. In that regard, I'm predicting a shortage of humor by 1993, and the cost of a barrel of mirth could go as high as \$50. A year ago, a barrel of crude laughs was selling as low as \$15, and it was difficult to give the stuff away.

By raising the price of a barrel of mirth to \$50, we might wake people up to the fact that, unless strong conservation methods are taken, we could run out of humor by the year 2000. In fact, the price of refined laughter could go as high as \$60 a barrel. We'll have to live with it. We can't have recession and inflation and expect cheap humor to boot.

ABOUT THE AUTHOR

Dr. Don Diffin  is currently Professor of Economics at Harding University in Searcy, Arkansas and Director of the Belden Center for Private Enterprise Education. He is also the Director of Economics Teams that have won First Place in national Students in Free Enterprise competitions on six occasions.

Listed in the Heritage Foundation's **Guide to Public Policy Experts**, Dr. Diffin  is the author of a 200-page **Facts Book for Business and Industry** and compiler of the **American Incentive System Calendar--A Daily Chronicle of Enterprise**. He has been published frequently in the **Journal of Private Enterprise**.

Dr. Diffin  is the recipient of the Freedoms Foundation George Washington Honor Medal in the category of Published Works, for his article "All American Economics--Made in the U.S.A." He is the editor of the **ENTREPRENEUR**, a newsletter that has received five Freedoms Foundation awards in the category of Non-profit Publications. In 1990, the National Flag Foundation presented their "New Constellation Award" to Dr. Diffin  for his patriotic booklet, "**TO THE FLAG--Our Banner of Liberty**".

The recipient of the \$7,500 Freedoms Foundation Principle Award for Excellence in Private Enterprise Education, Dr. Diffin  has received 8 other Freedoms Foundation awards, in the categories of Economic Education, Public Affairs-Advertising, Public Address, and Published Works. He is also the faculty winner of a \$1,000 First Place prize in a National Essay contest judged by Nobel Economist Milton Friedman.

In 1988, the First Annual Distinguished Scholar Award was presented to Dr. Diffin  by the Association of Private Enterprise Education. Dr. Diffin  is listed in **Personalities of the South and Outstanding Educators of America**. The Wal-Mart Foundation has designated him as a Free Enterprise Fellow.

Dr. Diffin  has provided Congressional testimony on business problems, economic impact statements, and inflation-recession dilemmas. Also an economic humorist, Dr. Diffin  is a frequent speaker for conventions, trade associations, chambers of commerce, and commencements.

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