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National Energy Policy: Its History and the Need for an Increased Gasoline Tax

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Hartnett, National Energy Policy: Its History and the Need for an Increased
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The importance of a national energy policy is great despite the minimal attention the subject receives from lawyers, scientists, and engineers. In particular, national concerns about global warming and the recently enacted Clean Air Act Amendments, are both influenced by energy policy.¹ This reflects the interest in the environment that has driven energy policy in recent years.² This discussion presents the historical setting for our current position on energy policy and makes suggestions to improve that position.

I. HISTORICAL ROOTS OF THE CURRENT NATIONAL ENERGY POLICY

In the fall of 1973, the U.S. experienced an Arab oil embargo that caused a profound effect on our energy use. Prior to the embargo, national annual consumption of energy was rising at a substantial rate, reaching over 70 quadrillion BTUs (Quads) by 1973. The 1973 embargo caused an increase in the price of all energy fuels. As shown in Figure 1,³ this resulted in a decrease in the amount of energy we used for the next few years. However, memory in this country is relatively short. By 1975-76, energy consumption was increasing again. This continued until 1979 when the Iranian crisis occurred, again interrupting oil supplies. As in 1973, this caused an increase in energy prices and a decrease in energy use. This time the nation's memory was a little longer because the impact had been somewhat greater. Again, however, by the early 1980s Americans were increasing their energy consumption.

A. Factors Affecting Consumption

Despite the marked trend towards continuously increasing consumption,

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1. A major study called NAPAP spent billions of dollars to produce quantitative scientific data on the impacts of acid rain. The Congress and the President did not act on those data; they acted on the public perception that there was a major problem. As a consequence, the cost of the Clean Air Act Amendments may be considerably greater than their basic benefits. We should not repeat this performance with global warming. Any action taken on global warming should be based on scientific fact and not public perception.

2. See generally Bradley, *Addressing the Environmental Needs of the Northeast: A Look at the Future Alternative Fuels*, 28 CAL. W.L. REV. ____ (1991) (for a discussion of the results of an environmental policy on our transportation energy future).

3. ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, STATE ENERGY DATA REPORT, CONSUMPTION ESTIMATES 1960-1989, at Table 9 (1989) (DOE/EIA-0214(88)) [hereinafter CONSUMPTION ESTIMATES].

current consumption levels are not as high as once expected. In 1973, the energy companies and federal agencies were predicting that the U.S. would be consuming 150 Quads of energy by the year 2000. However, it appears today that energy consumption by the year 2000 is going to be much lower, closer to 100 Quads than to 150 Quads.

The energy consumption history described above and shown on Figure 1 should be viewed in light of population and GNP growth for the same period, shown in Figure 2.⁴ It is apparent that the increased energy consumption serves an increasing population and an increasing gross national product. A more accurate assessment is done by examining energy use per gross national product—that is, how much energy it takes to produce a dollar's worth of goods and services. The top curve on Figure 3 indicates that starting in 1973 (the first Arab oil embargo) the energy use per GNP went down. The country was producing more goods and services with the same energy input, and thus was becoming more energy efficient. Today, we are producing thirty percent more goods and services per unit of energy than we were at the beginning of the 1970s. Although this is a significant achievement, it must be compared with the energy use per GNP of our international competitors. Japan and Germany, two of our major economic competitors, have an energy use per unit GNP ratio that is twice as effective as ours. They are using half the amount of energy we use to produce the same goods and services.

B. Oil Consumption and Transportation

One of the major concerns in our energy picture is oil. In terms of its overall importance the lower curve on Figure 4 shows that oil use represents over 40 percent of our total energy consumption.

The oil consumption picture as a function of time, shown on the top curve of Figure 4,⁵ resembles the overall energy picture. As a result of the Arab oil embargo in 1973 oil consumption decreased. Then it began increasing again a few years later. When the Iranian crisis occurred, oil use went down. So, the nation's use of oil basically followed the same pattern as the nation's use of energy.

An examination of transportation is presented because the transportation sector is almost totally dependent on oil as a fuel. Two-thirds of the oil in this country is used by the transportation sector. Accordingly, efforts to decrease our dependence on oil must focus on the transportation sector. Figure 5⁶ shows that transportation energy use, including oil, is growing very rapidly and currently represents over twenty-five percent of our national

4. BUREAU OF THE CENSUS, U.S. DEPARTMENT OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES, 1978, 1981, 1986, 1988, 1990, Tables 13 & 668 (1990) [hereinafter STATISTICAL ABSTRACT].

5. See CONSUMPTION ESTIMATES, *supra* note 3, at Tables 10-14.

6. *Id.*

energy consumption.

A related issue is the price of fuel adjusted for inflation. Figures 6⁷ and 7⁸ show the ratio of the price in any year relative to the price in 1970 for a number of energy forms. For example, Figure 6 shows that the cost of distillate fuel in 1988 was about sixty percent higher than it was in 1970. Natural gas was over twice as expensive as it was in 1970. Figure 7 reveals that the cost of coal was about fifty percent higher in 1988 than it was in 1970 and electricity was higher in 1988 than it was in 1970.

In contrast, the real price of gasoline today is lower than it was in 1970. All other fuel forms have increased in real prices except motor gasoline. This raises several questions: Does the price of gasoline reflect its actual cost? Does it reflect the environmental cost? Does it reflect the cost of the United States Navy escorting Kuwaiti tankers? Does it reflect the cost of the Strategic Petroleum Reserve? Uniformly, the answer is no. This suggests that we do have an energy policy—that policy is to keep the price of gasoline as low as possible, regardless of the real economic and social costs of producing gasoline.

Part of the cause of this problematic policy is the geographic distribution of the world crude oil reserves. As shown in Figure 8,⁹ fifty-seven percent of the crude oil reserves lie in the Middle East. A substantial amount of the world crude oil reserves, about nine percent, is also found in Eastern Europe. North America has about twelve percent.

This information is important considering the magnitude of U.S. oil imports. In 1973, 36% of oil used in this country was imported oil. As shown on Figure 9,¹⁰ only 4.9% of the oil we used in this country in 1973 came from Arab nations belonging to the Organization of Petroleum Exporting Countries (OPEC). An embargo of just that 4.9% caused the disruptions of 1973 and 1974. By 1979, the time of the Iranian crisis, dependency on imported oil had grown to 45% of our total oil use and 14.7% came from the Arab OPEC nations. Then it seemed for a while that we learned our lesson. By 1985, we had decreased our dependency to about 32% and only 2.7% was coming from Arab OPEC countries. During this period, we shifted from our undependable ally, Iran, to a newly re-found partner, Iraq. Imports increased in the mid 1980s. By 1989, we were importing 45% of our oil with 12% from the Arab OPEC countries. By 1990 about 50% of our oil was imported with 13% from the Arab OPEC countries. This overdependence on imported oil is a main reason for our liquid fuels problem.

Another related factor is the price of gasoline in this country compared

7. *See generally* ENERGY INFORMATION ADMINISTRATION, DEPARTMENT OF ENERGY, STATE ENERGY PRICE AND EXPENDITURE REPORT, 1970-1982 (1987) (DOE/EIA-0376).

8. *See generally id.*

9. *See generally id.*

10. *See generally id.*

to other countries around the world. The price of gasoline in all other industrial countries, including Japan and Germany, is three to four times the U.S. price (excluding Canada).¹¹ The higher cost of gasoline in the rest of the world has resulted in substantial increases in the efficiency of energy use in these countries. Even at this late date, the U.S. has not learned that lesson. A common argument in this country is that if we raise energy prices substantially, we will not be competitive with the Japanese and Germans. In fact, energy prices in both of these countries are substantially higher than in the United States and this has not hurt their competitive position.

II. SUGGESTIONS FOR THE FUTURE OF U.S. ENERGY POLICY

A few suggestions can be made on the basis of these facts. First, it is important to note that there are three major factors that influence energy use: 1) market forces; 2) new technologies; and 3) public policy measures (such as taxes or incentives). These factors are interdependent; they are not separate. For example, both market forces and technology can be affected by policy. This presents an opportunity to use those three factors to accomplish what should be our major goal: providing a secure supply of energy at a reasonable price in an environmentally acceptable manner.

This goal can be accomplished in part by reducing our dependency on imported oil. Several steps can be taken to accomplish that. First, we should raise the federal gasoline tax by at least fifty cents. A large percentage of that new tax revenue should be devoted to public transportation. Prior to the last Congress, there was a nine cent federal tax on gasoline. Of that nine cents, eight cents went to maintaining and building roads. Only one penny went to mass transportation. Again, I suggest that we do have an energy policy: to continue keeping the automobile the dominant form of transportation.

Although the market forces should be what drives prices, the market should also reflect the cost of the commodity. The price of gasoline does not reflect

11. The international price of gasoline in U.S. dollars per gallon:

City	September 1990	June 1990
Milan	\$4.73	\$4.11
Paris	4.24	3.46
Tokyo	3.76	3.57
Brussels	3.56	2.91
Hong Kong	3.43	2.90
Madrid	3.34	2.71
London	3.25	2.58
Munich	3.15	2.46
Athens	3.15	2.39
U.S.A.	1.31	1.10

WORLD ENERGY CONFERENCE, THE UNITED STATES NATIONAL COMMITTEE OF THE WORLD ENERGY CONFERENCE, SURVEY OF ENERGY RESOURCES (1974).

the cost of producing and safeguarding the gasoline supply. Achieving this requires a tax on gasoline similar to that found in every other major industrial country in the world.

In addition to raising gas taxes, I propose three more actions to reduce our dependency on oil. One is to increase the use of alternative transportation fuels, such as compressed natural gas, methanol, and ethanol. We should also diversify our sources of imported oil. There are other suppliers such as China, the Soviet Union, and Mexico. They may prove to be more reliable than our current sources.

Finally, new Corporate Effort Fuel Efficiency (CAFE) standards are also necessary and represent a good energy policy. We should target forty miles per gallon by the year 2000. The standards imposed by Congress resulted in raising this country's fleet average from 14 miles per gallon to 28 miles per gallon. This alone caused a significant decrease in the amount of oil consumed. Arguments are made that new CAFE standards of 40 miles per gallon should not be imposed. However, technology currently exists which would allow us to go from 28 to 40 with the same size vehicles currently available. If we do not meet this challenge, the Japanese will. They already have announced a lean fuel vehicle that can attain 40 miles per gallon with a contemporary vehicle structure.

It is time to strongly urge Congress to screw up its courage and impose a higher tax on gasoline and begin to move this country off its substantial diet of imported oil.

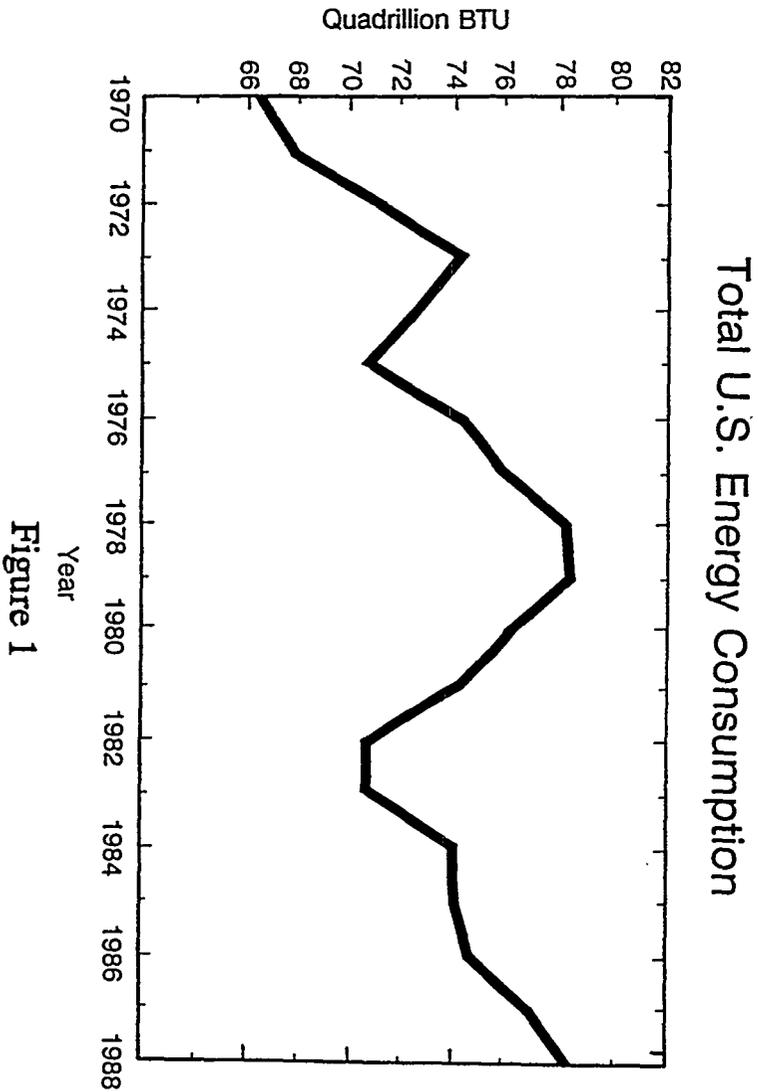


Figure 1

Gross National Product (1982\$) and U.S. Population

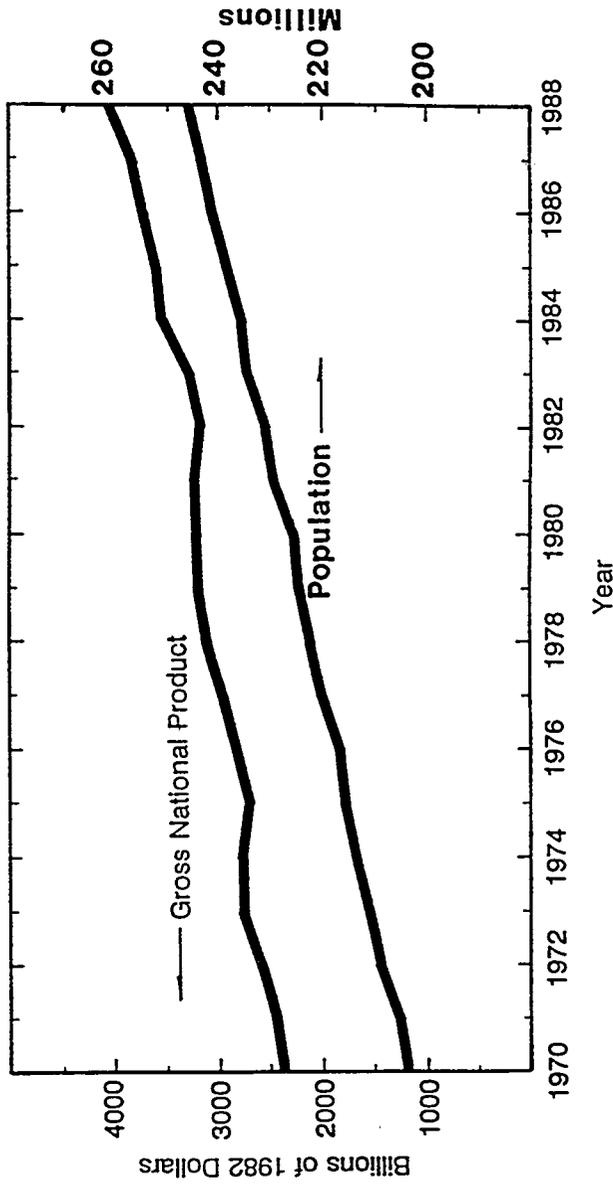


Figure 2

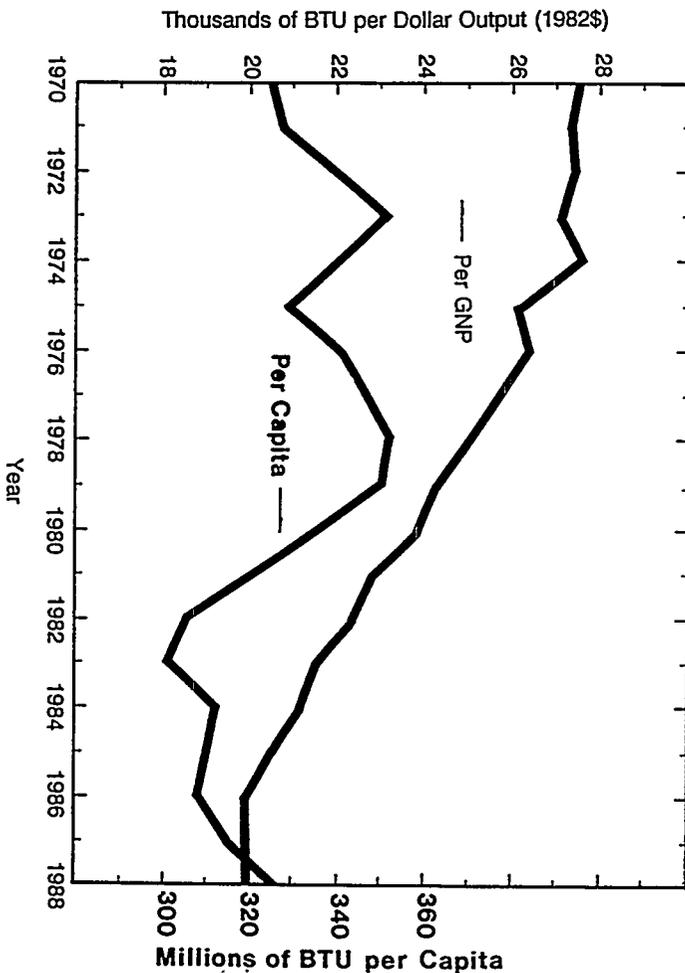


Figure 3

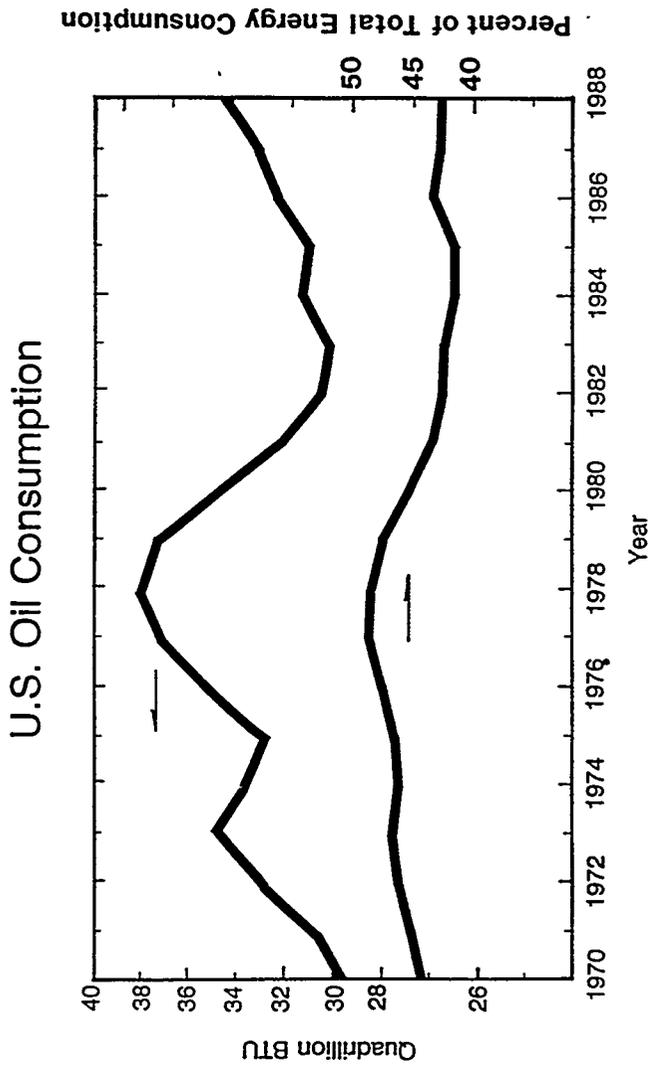


Figure 4

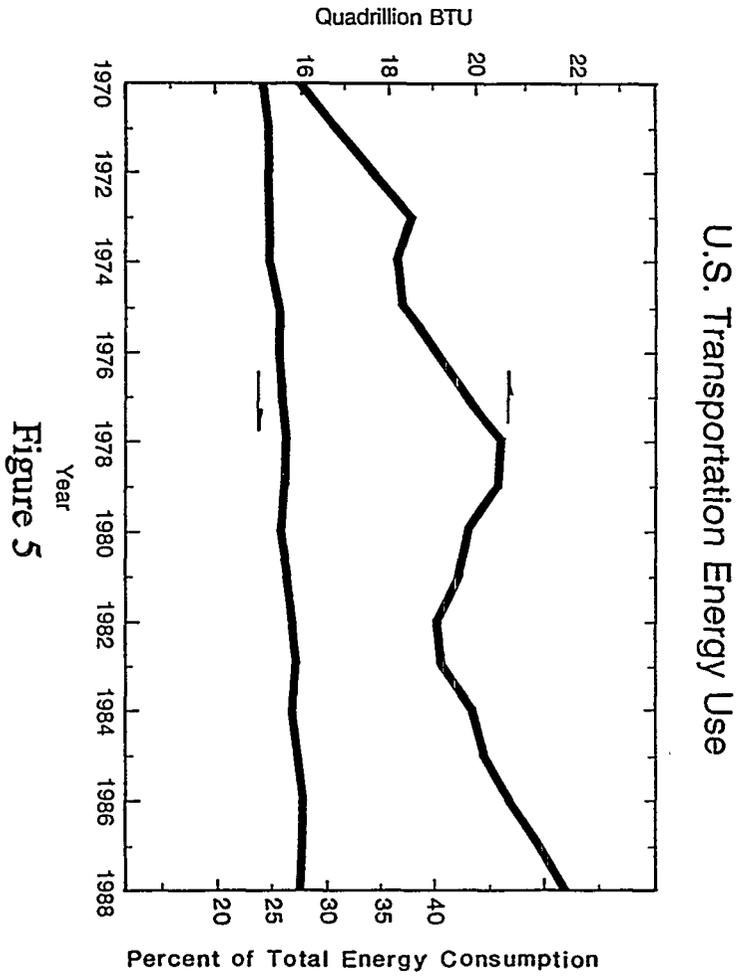


Figure 5

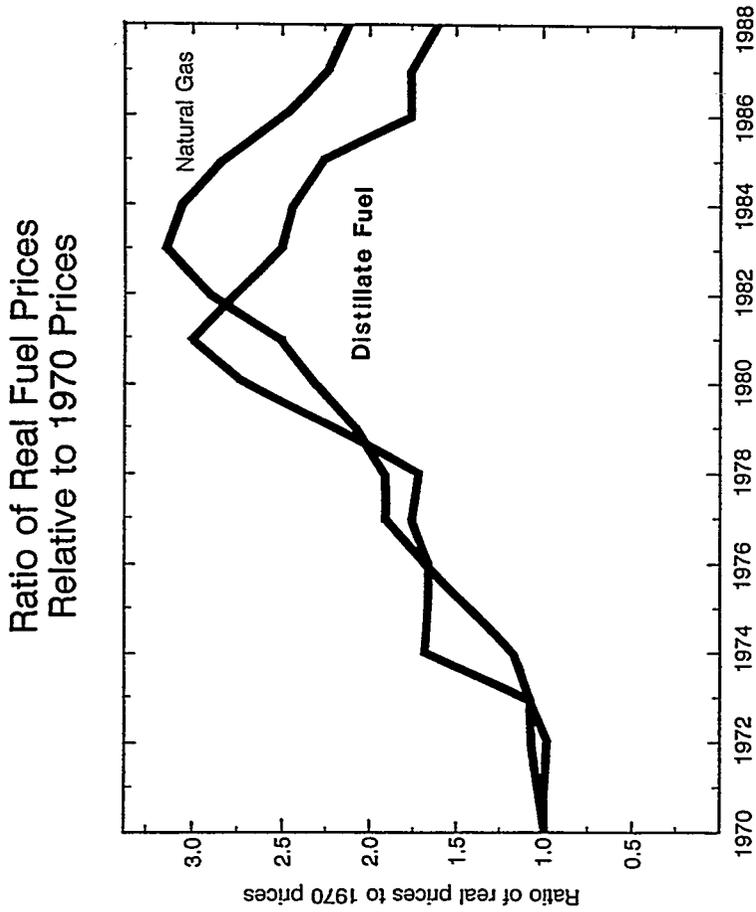


Figure 6

Ratio of Real Fuel and Energy Prices Relative to 1970 Prices

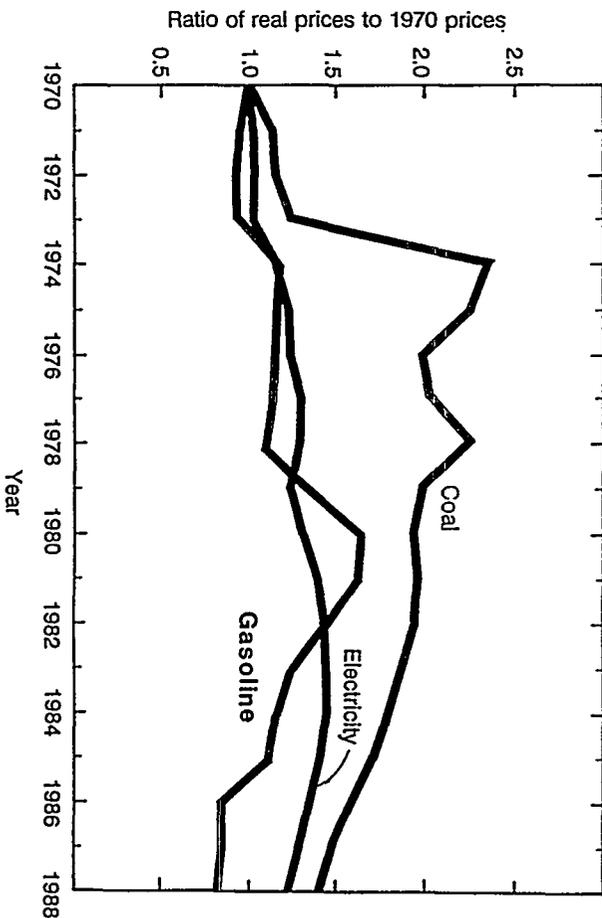


Figure 7

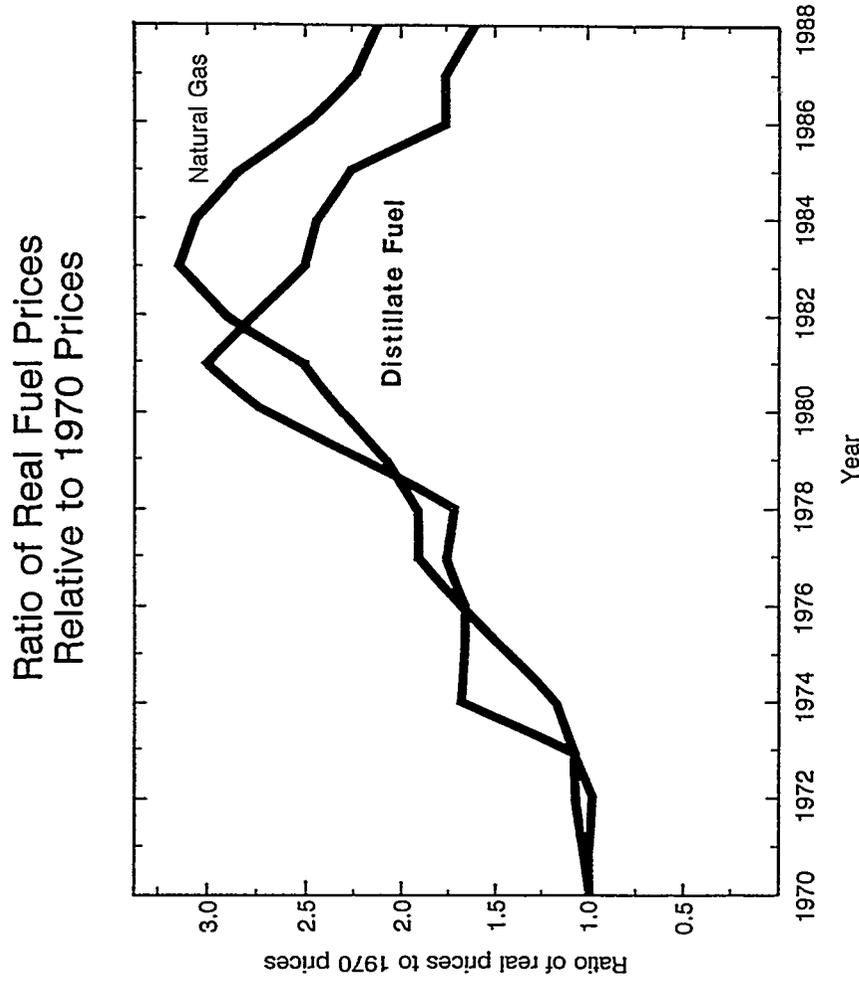


Figure 8

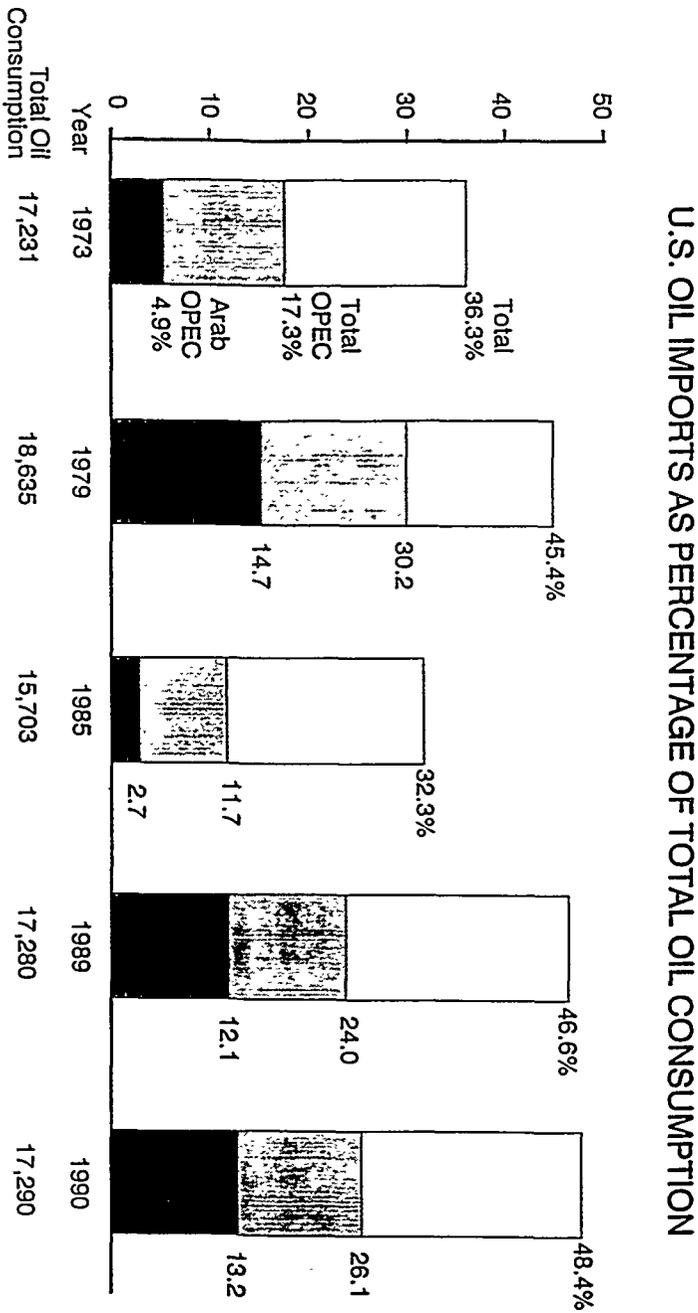


Figure 9