ONE

Crisis

Economists may not know much. But we do know one thing very well: how to produce surpluses and shortages. . . . Do you want a shortage? Have the government legislate a maximum price that is below the price that would otherwise prevail.

Milton and Rose Friedman (1980, 260–1)

1. Introduction

October 1973. That was when U.S. energy policy as it is commonly understood began. On October 17, the Arab members of the Organization of Petroleum Exporting Countries (OPEC) announced an embargo of oil against the United States and the Netherlands for their support of Israel in the 1973 Arab-Israeli Yom Kippur War. Over the ensuing weeks, the Organization of Arab Petroleum Exporting Countries' (OAPEC) embargo led to havoc in the United States, its first national "energy crisis." As gasoline and diesel fuel supplies dwindled, there were shortages that led to long lines of angry motorists and even angrier truckers, sitting in their vehicles in the winter cold waiting for a few gallons of fuel. The discomfort was acute and widespread. To make matters worse for consumers, when fuel was available, it was more expensive. By the end of 1973, the prices of all oil products were much higher than they had been just a few weeks earlier; there was economic "pain at the pump." This crisis was, as a government official later observed, the first time members of America's baby-boom generation had felt real economic deprivation, and they looked to the U.S. government to "do something."

Officials in the administration of President Richard Nixon and members of Congress promised action and soon began to introduce legislation, often the same pieces of legislation with slightly different twists. None of this legislation or any executive measures actually accomplished anything of

lasting import. Still, something did change, and that was the prevailing policy narrative. Then and for the next thirty-nine years (and still counting), there was a new understanding concerning energy policy, what it was about, and what it was supposed to accomplish. The story centered on America's awareness of its reliance on a global oil market, framed as "dependence on foreign oil," and the embargo had revealed that because of that dependence, the United States was vulnerable to OPEC "blackmail," in which oil would be traded to America for political compliance. The nation's very security and even its way of life were said to be at stake. Americans suddenly saw themselves as potential victims of embargoes ever after; exporters would use the so-called oil weapon, an embargo, and Americans would suffer or do their bidding.[1]

Furthermore, so the new story went, the price of energy was going up, probably way up and perhaps steadily, and still worse lay ahead. Soon, oil and natural gas would just "run out." The United States was dependent on foreign supply because domestic supplies of oil and natural gas were disappearing. Books such as *The Energy Crisis* (Rocks and Runyon 1972) and, even more spectacularly, *Limits to Growth* (Meadows et al. 1972) argued that not just the United States but also the entire planet was running out.[2] Yet, for a while longer, those who controlled the last few drops (namely, the members of OPEC) would set the price of oil, lifting it higher and higher to gain more power and wealth for themselves. The OPEC nations, even non-Arab members such as Nigeria, Venezuela, and Iran but especially the robed Arab oil "sheikhs," were cast as the villains of the story, abetted by greedy major international oil companies, who, it turned out, were making fabulous profits at the expense of all the people sitting in their cars in the winter of 1973–4.

[1] According to a 1974 study by the London-based Institute of Strategic Services, there would be little the developed world could do against repeated use of the oil weapon, which would likely produce "limitless" hardship including "economic ruin." Quoted in the *New York Times*, "Study Warns of Perils in Mideast War," May 10, 1975, 6.

[2] The neo-Malthusian "Limits" study undertaken for the Club of Rome argued that the world was running out of just about everything, pollution was getting worse, and famine and social collapse were the likely results. Oil and natural gas resources were expected to be entirely depleted no later than the 2010s, but more likely around 2000. See also Cheney (1974), which called for zero per capita energy growth as well as zero population growth to forestall collapse. A more recent version is called the "threshold hypothesis," which argues that "for every society there seems to be a period in which economic growth (as conventionally measured) brings about an improvement in the quality of life but only up to a point – the threshold point – beyond which, if there is more economic growth, quality of life may begin to deteriorate" (Max-Neef 1995, 117).

Many said the United States, therefore, needed an energy policy to break that dependence, possibly even to make the nation entirely self-sufficient – provided, of course, that at the same time prices were kept, as President Nixon put it, "reasonable." To achieve both self-sufficiency and low prices, the country had to find or create abundant domestic energy supplies that would last for generations. That became the policy goal that would emerge from the embargo.

But how was this to be accomplished? There were no plans in place, no clear ideas, no contingencies. Although officials had discussed the possibility of an oil cut-off since 1971,[3] and despite many statements by Arab exporters that they might implement one (Akins 1973), administration spokesmen admitted that they had not planned for such an event as the embargo (de Marchi 1981a). Lack of preparation notwithstanding, however, Nixon quickly put together a scheme that he called "Project Independence": a plan for complete U.S. energy self-sufficiency by 1980. The idea was dramatic, but it was conjured up suddenly in the crisis atmosphere more as a slogan than as a coherent plan. To sell it, he made direct reference to "the spirit" of the Apollo program that showed "whenever the American people are challenged with a clear goal . . . we can do extraordinary things."[4] The inference was plain: if the United States could put a man on the moon, Americans could solve any technological problem, including this energy crisis, even if at the moment no one actually had any idea as to how.

Congress also started to take action. In fact, over the twelve months after the embargo, Congress considered about 2,000 bills that incorporated at least some provisions related to energy (Doub 1976). A few of these bills contained ideas that were as expansive as the one Nixon had proposed. Only a handful of proposals ever became law, but the nature of the debate was what persisted. Congress had adopted the same rhetoric as Nixon, and ever after energy policy would be articulated in the same way it was framed in 1973–4. Policy needed to end a debilitating and dangerous dependence and eradicate the threat of looming economic catastrophe because energy cost "too" much.

[3] The National Security Council staff prepared a paper in January 1971, which noted the dangers of America's energy situation. The paper argued that the problem "involves the *probability* of a significant increase in the payments made by oil companies to the oil producing countries – and consequent increased costs to the consumers and the oil companies – and the *possibility* of interruption or cut-back in supplies imposed by some of the OPEC countries" (U.S. State Department 2011, 199), emphasis in the original.

[4] Richard Nixon's televised speech to the nation, Nov. 7, 1973; transcript at: http://www.presidency.ucsb.edu.

This basic narrative seemed to fit the events of the day, but it rested on an analysis that was mostly wrong – wrong on many of the facts, wrong on theory, and wrong mainly about what government could actually do. That is what this book is about. It recounts the failures of U.S. energy policy through successive administrations. The specifics are different from one administration to the next, but the premises of policy have remained the same. Succeeding chapters recount those failures, but this chapter is about that first energy crisis, in 1973; that was when the nation's energy policy gained its narrative shape, making a history of failure all but inevitable.

There was, of course, energy policy of sorts before the embargo. There had been government interventions in specific fuel markets going back to the beginning of the twentieth century. In the months before the embargo, the most conspicuous policies were controls on oil and natural gas prices. Oil price controls had been in effect since 1971, initiated as a part of general wage and price controls aimed at fighting inflation, the number one economic concern of the American people according to multiple opinion polls.[5] Natural gas prices had been controlled even longer. Wellhead prices of natural gas had been determined by the Federal Power Commission since the 1950s, interstate gas transmission prices since the 1930s. The worry over a rising price level was legitimate, but price controls only made it impossible for market forces to adjust quickly to shocks like the embargo. Thus, far from helping consumers by keeping prices down, controls made the disruption of the oil market in 1973–4 much worse than it would have been otherwise. In fact, it was U.S. policy that turned the embargo into a major national emergency.

During the crisis, the federal government took some steps to "do something" about it, but those steps tended to be the wrong ones. Nixon agreed to congressional demands for mandatory allocation controls that were added to controls on price. Thus, the entire energy production and consumption process had top-down direction with an "energy czar" (as that official was popularly called even then) to manage both prices and allocations and coordinate a market that entailed literally millions of purchaser and production decisions every day. No "czar" could have hoped to direct such an enormously complex set of decisions successfully. Incentives usually signaled to consumers and producers through market prices were hopelessly muddled – so much so that when more oil became available in early 1974, the shortages worsened.

[5] The inflation rate reached 6 percent in 1970 and, despite general wage and price controls, was more than 7 percent in the summer of 1973.

Meanwhile, government officials began to offer additional ideas, ranging from coupon rationing (that is, even more control) to nationalization of energy industries (government ownership as well as control) to retaliation against Arab countries. A few Nixon administration officials, notably among staff economists of the Council of Economic Advisors (along with outsiders such as economist Milton Friedman and the editors of the *Wall Street Journal*), did argue for reversing bad policy by ending controls altogether, but this was never backed by Nixon nor taken seriously in the halls of Congress. The debate in 1973–4 was over whose version of intervention would prevail: Nixon's or one of the several plans advocated in Congress.

When the crisis ended that same spring, there was actually no policy change of consequence. The country was no closer to energy independence than it had been in the fall; in fact, imports were to rise over the next few years. Furthermore, although many said the crisis had proved the United States needed "a comprehensive and coordinated national energy policy" (Doub 1976), it would take other crises to motivate the policy process. At times, future crises, unlike this one, would lead to large, costly national energy programs, almost delusional at times in the belief that legislation by virtue of its passage would make scientific and technical breakthroughs necessarily happen. For the most part, these programs were reversed, abandoned, or defunded when it became clear they had made little economic or technical sense in the first place. This book shows how energy policy has played out, with variations, apparent changes, of course, and most often confusion, in successive administrations: Ford (Chapter 4); Carter (Chapter 5); Reagan, GHW Bush, and Clinton (Chapter 7); and GW Bush and Obama (Chapter 8). Chapters 2 and 6 tackle some of the theoretical issues behind energy policy, Chapter 3 fills in some early history, and Chapter 9 suggests a different way of thinking about energy policy. However, in sum, this book is about how efforts at national energy policy have had an unfailing history of leading nowhere.

2. Framework of an Energy Crisis

a. What Is an Energy Crisis?

There really is no such thing as an energy crisis.[6]

[6] Despite my belief that energy crises are not crises in any meaningful sense, I retain the use of "energy crisis" to refer to periods when that was the common understanding of events. "Energy crisis" should therefore be understood as referencing time periods, not catastrophes, or upheavals.

There are tremendous quantities of energy resources, and even if one resource is hard to obtain or expensive, adjustments in production and consumption will occur. Energy resources will never be per se inaccessible; disruptions are always temporary and in a real sense self-correcting, albeit sometimes relatively slowly, leading apparently to short-term macroeconomic impacts.

Nevertheless, the claim of "energy crisis" has been ubiquitous for forty years. In 1971, the *New York Times* made the term official with a three-part series called "The Energy Crisis."[7] A book (Rocks and Runyon 1972) by that name came out a year later; it argued that all fossil fuels were reaching exhaustion and that the future of the human race depended on the development of nuclear fusion electric generation. Over the years, members of Congress have become especially willing to issue the cry "energy crisis" whenever they hear (a) from their constituents about problems related to energy or (b) when there is a problem that can be laid at the feet of the opposition party. Jimmy Carter viewed the energy crisis as something tangible if undefined, but to him it was ongoing and worsening even when it was "invisible" (United States Executive Office of the President 1977).

What is an "energy crisis"? The designation is essentially an argument that goes like this: this situation related to energy bothers me so much that it should be defined as a crisis, and because I am discomforted, it must be evolving toward catastrophe. An energy crisis manifestation is a market disruption that causes a sudden price spike or a longer-term price surge, or that leads to a transitory shortage. A crisis means there is nothing, or just not enough, to buy at the gas station today, the light does not come on at 6 PM when one flips the switch, or either of these costs "too much" – meaning more than what consumers want, or have expected, to pay. A crisis may be a logistical problem, a financial issue, or, most likely, a political failure that gives producers and consumers the wrong signals, leading producers to deliver too little of an, or the wrong, energy product or consumers to demand more than current market conditions warrant.

It is comforting in a sense to regard an energy market disruption as a crisis. To be laid off from work because there was a misallocation of natural gas, as occurred a few times in the 1970s, leads to personal distress; to pay 25 percent more for gasoline today than it cost last week because of turmoil in the Middle East is also unsettling and can be especially so for families on a tight budget. That politicians and commentators dub the situation a

[7] John Noble Wilford, *New York Times*, July 6, 7, 8, 1971.

"crisis" means it is important, of national or global significance, and should be taken very seriously – like a war, an epidemic, or an earthquake.

Still, for all the short-term discomfort they create, "energy crises" have had little long-term macroeconomic impact. Although there have been several energy shocks to the U.S. economy over four decades, during this period, real U.S. gross domestic product has tripled.[8] Politicians like to describe energy disruptions with militant rhetoric: energy "battles" and "wars" – flattering to those who are angered or depressed by having to pay more at the gas pump but extravagantly overblown rhetoric nonetheless. Mostly, however, an energy crisis is a declaration for government to do something to change it – even when there is really nothing to change.

In fact, government actions have done little to solve these disruptions; if anything, disruptions have become bigger problems when policy makers actually tried to fix them. However, for politicians, an energy crisis is often an event with sufficient impact that it could cost them their office – personally a crisis for them but not objectively something that is a catastrophe for the national economy or (as some politicians have suggested at times) a threat to the nation's very survival and way of life. An energy crisis is an arbitrary label given generally to various kinds of energy-related problems. Not surprisingly, then, policy typically does not provide solutions.

b. Energy Crisis Economics

It is straightforward for government to manufacture a shortage: to set a price ceiling below the price that would prevail in a mostly free market.[9] Probably many members of Congress as well as of the Nixon administration – especially those who once took a course in economics – would have acknowledged this. In the early 1970s, however, most of them would have argued for price controls anyway, for three reasons: First, they thought controls would help curb inflation. Second, they thought there was no "free" oil market to set a price by the economic laws of supply and demand. Finally, there was a growing belief that even if the market were free to set a price, it could not do so. That is, no possible free market price could exist, and so a government price at least protected consumers.

[8] Some have argued that the United States has a long-term energy crisis: trends of increasing consumption and/or declining production that down the road will lead to disaster. This is the basic neo-Malthusian argument that appears frequently in this book.

[9] Basic economic texts usually treat this idea with reference to laws imposing rent controls or credit ceilings (see Mankiw 2009).

Chapter 3 considers in more detail the first issue – whether price controls are a sensible way to fight inflation. Briefly, suppressing price increases of a key commodity is not the same as stopping inflation, but policy makers were acutely aware of the political salience of inflation with voters. Polls had been showing for some time that it was the number one economic issue in the country. To let it linger, to let the market alone, would have made the most sense from the standpoint of economics, but it did not seem a viable political option. The Nixon administration and Congress believed that they needed to do something about inflation from 1971 onward, and that something became price controls.

The second and third arguments – that price controls were necessary because the market was not setting the price and in fact *could* not set a price – are two related ideas that were based on important economic and technical assumptions made explicitly or implicitly throughout the 1970s. First, policy makers believed that the U.S. government needed to fix prices because the world oil market was run by monopolists in the form of tacit (or actual) collusion between the cartel of exporting countries (OPEC)[10] and the major international oil companies (often called "Big Oil"), and without government protection, the cartel members and their corporate allies could charge whatever they wanted to, gouging American consumers. For some legislators and consumer advocates, this was the whole of the problem. Big Oil and OPEC had plenty of oil, they argued; they just sat on it to force up prices and make bigger profits.[11]

For other officials and energy analysts, the problem ran deeper. Their implicit model of the oil and natural gas markets was based on the belief that demand was going to keep rising regardless of price; supply would keep falling regardless of price. This analysis was based on a fallacy that trends observed in the past were sure to continue in the future even if surrounding conditions have changed. Although it might have seemed that one solution to high prices was for consumers to use less oil and gas, this particular model said no. They would keep buying more over time even in the face of rising prices.

The beliefs about supply and demand were based on recent history: demand had risen every year since the end of World War II. What was left out of this analysis, however, was the fact that the real price of energy

[10] Each country had a government-controlled national oil company that contracted with international oil companies for field production.

[11] In Senate testimony in January 1974, consumer advocate Ralph Nader said the oil industry was using the crisis to commit "billions of dollars of unarmed robbery." Reported in the *New York Times*, Jan. 15, 1974, 1.

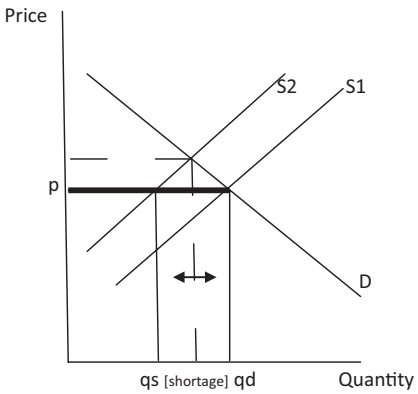

Figure 1.1. A standard model of a competitive industry, where the market sets a price at the intersection of the demand (D) and supply (S) curves. The dark bar (p) represents a fixed price ceiling, which leads to a gap between the quantities supplied and demanded.

had fallen for twenty years. Indeed, there seemed to be an unwillingness to connect these two facts. Only the first fact – rising demand – mattered; the second was ignored because the *nominal* price of energy had risen. The *real* price required adjustment for inflation and was not posted on a gas pump or a home heating oil bill. Now, in 1973, there were shortages, which surely meant dwindling supply. QED: demand rises, supply falls. Demand kept rising after 1971, however, because price controls kept prices artificially low, and domestic supply fell because price controls reduced incentives for discovery and new production. Further, because rising prices of world oil could not be directly passed on to consumers, controls also discouraged imports, exacerbating the problem. But this was not the energy crisis narrative. It became a singular aspect of the energy crisis that policy makers directly or implicitly invoked ideas they misinterpreted or misunderstood entirely.

As elementary economics textbooks would have told them, policy makers in the fall of 1973 were in the process of creating energy shortages. The rigid set of pricing rules constituted a moving price ceiling. Prices were fixed and could only rise with the approval of the Nixon administration's Cost of Living Council (CLC). When OAPEC announced an embargo along with a cutback of production, world oil prices had to rise, but by resisting this increase, U.S. price controls were guaranteed to make a bad situation much worse than it would otherwise have been.

Consider Figure 1.1. In a normal market, the price should settle at the point where supply and demand are equal. Assume supply is initially S1; the

OAPEC embargo was initiated with a cut in supply, and supply declined, represented in the figure by a shift to S2. Normally, price would rise to the dashed line above p, and market quantity supplied and demanded would fall to the point where the second dashed line intersects the x-axis; constrained supply in fact means that the price *has* to rise because buyers bid against each other for a smaller quantity. The higher price dissuades some buyers from purchasing as much as they had originally planned (or from purchasing at all); people conserve or find some alternative product to substitute. With the price ceiling (p), however, the cost to consumers is too low, and there is no signal to tell them they need to change their behavior. The quantities supplied and demanded are not equal; the unsatisfied demand represents a shortage.

Further, successive supply cuts that are not accommodated at once by price hikes mean that there is likely to be a persistent shortage condition; both at the wholesale and retail levels, supplies would be withheld until price hikes were allowed. It may have seemed paradoxical to some in the 1970s that the United States would have long gasoline queues, as well as higher prices, but retail prices followed gas lines as prices rose according to a set of government pricing rules days or even weeks after supply cutbacks had forced world prices higher.[12] If prices had been allowed to find a market-clearing level, there would have been high prices more quickly but no gas lines and no shortages. Alternatively, if price controls were absolute, the country might have had longer queues but stable prices. The United States had neither definitively, and so had both queues and rising prices – the worst of both worlds (Hall 2003).

Although illustrative of how a market is supposed to work, Figure 1.1 oversimplifies and arguably misrepresents the actual world oil market of 1973–4. First, the supply and demand curves should be more vertical – that is, inelastic. It has generally been agreed by most economists that at least in the short run, both curves were relatively inelastic so that the effect of a shift in supply would have a dramatic effect on price, whereas the quantity demanded would hardly decline at all. This seems intuitively sensible because it is difficult to change energy use radically in the short run. If the price of beef goes up quickly, a consumer can immediately switch to chicken, but if the price of gasoline soars, there is no available substitute to put in the tank. The consumer does have some choice – a new fuel-efficient car, less driving, carpooling, shorter trips, and so on – although

[12] Queuing is just price revealed in another form; the opportunity cost of time spent in line is a shadow price (Barzel 1989).