Viewpoint

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Why Oil Prices Should Be Decontrolled

P OLICY-MAKERS CURRENTLY face major de-
cisions on petroleum pricing and have
an important opportunity to rethink the
direction of U.S. energy policy. Present oil price
control regulations are scheduled to expire in
October 1981; and in June 1979 the Carter ad-
ministration began to phase out price ceilings
so as to bring about a gradual transition to de-
control. It remains to be seen whether Congress
will block gradual decontrol and extend price
regulation past 1981. Nevertheless, if these de-
cisions are to be made rationally, policy-makers
must be clear on the issues involved.

There are two basic kinds of issues raised
by the prospect of decontrol. Because federal
price regulation forbids crude oil producers
from selling their output at market prices and
because it forestalls much of the prospective
transfer of wealth from domestic users to do-
mestic producers portended by the rising world
oil prices of the 1970s, issues of fairness (or
equity) arise in the debate over policy. And be-
cause the constraints placed on this prospec-
tive transfer themselves distort energy use and
production decisions, issues of efficiency inevi-
tably arise as well.

Oil price regulations in fact impose a net
efficiency loss on the U.S. economy. Conse-
quently, the crucial question is whether the
gains in efficiency from decontrol outweigh any
equity losses. On the basis of explicit measure-
ment and comparison, we conclude that the
answer to this question is yes. Oil prices should
be decontrolled.

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The Costs of Controls

Demand-Side Inefficiency. Domestic crude oil
price controls prevent much of the increase in
the wealth of crude oil producers that would
accompany an increase in domestic prices to
world levels. An estimate of this potential
wealth increase can be found by calculating the
difference between the revenues that would be
generated in the absence of controls and the
actual revenues on controlled output. Assuming
that domestic regulation has had no effect on
the "uncontrolled" world price for crude oil,
these "transfers" were running at a pace of
roughly $17 billion in May 1979 (that is, im-
mediately before the administration's first grad-
ual steps toward decontrol). These billions of
dollars represent a windfall to *users* of crude
oil—including large refiners, small refiners, and
ultimate consumers, both industrial and indi-
vidual. The division of the windfall among these
groups depends on the impact of a complicated
set of regulations called entitlements.

Obviously, the prospect of any transfer of
$17 billion a year would induce interest-group
competition. The entitlements program is an
outcome of such competition and is the mecha-
nism that determines the eventual ownership
of the windfall gains arising under crude oil
price controls. Essentially, the program taxes
away these gains and redistributes them as sub-
sidies for the expansion of refinery output.
Since the supplies of crude oil available for
such expansion primarily consist of imported
oil, the entitlements program subsidizes the use
of foreign oil. This subsidy, which varies with
the gap between the world price of oil and the
domestic weighted average price, averaged
$2.35 per barrel over 1975–78 and was $2.44 in
May 1979.

Now, as far as the nation's economy is concerned, efficient use of crude oil requires that the price paid by the nation to acquire a barrel of crude oil not exceed the value consumers place on the contribution of that crude oil to the refined products they desire. The present inefficiency arises because, with the entitlements subsidy, refiners see the cost of crude oil to themselves as something less than the amount actually paid to foreign suppliers. Consequently, they use too much crude oil—too much in the sense that the country hands over resources to foreign oil sellers which are more valuable than the goods produced by having additional crude oil for refining. Assuming (as the evidence suggests) a 1 percent reduction in the price of crude oil induces refiners to increase use of crude oil by one-half of 1 percent within the year of the price reduction, then (based on May 1979 data) domestic refiners use about 375 million extra barrels of imported crude oil per year as a result of the entitlements subsidy—though, of course, these entitlements-induced expenditures produce goods of some value to the intermediate and ultimate consumers of crude oil. Our calculations show a gain of $13.2 billion a year to crude oil users, at a cost of $13.7 billion a year. The net loss—in demand-side efficiency—is thus $500 million a year.

Supply-Side Inefficiency. Federal regulation of domestic petroleum prices not only induces overconsumption of crude oil in the United States. It also causes underproduction, and this results in a net loss to the economy.

Efficiency in crude oil production requires that, for a given level of demand, the total cost of acquiring oil from both foreign and domestic sources be as low as possible. When the alternative to domestic oil is imported oil bought at the world price, efficiency requires the production of all domestic crude oil that can be had at a cost not exceeding the price of foreign oil. If the cost of an incremental unit of output of domestic oil is greater than the price of imported oil, the nation could save by replacing domestic output with imported oil. Conversely, if the cost of an incremental unit of output of domestic oil is less than the price of imported oil, we would save by importing less and producing more. It makes little sense to hand over, say, $19 to foreign oil producers for a barrel of

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crude oil if a comparable barrel can be acquired domestically for, say, $13.

Federal price controls violate the criteria for efficiency in oil production. Ceilings on the prices that can be paid for so-called lower- and upper-tier crude oil discourage producers from taking full advantage of sources of supply with production costs greater than those ceilings—even though there are, among these, sources that could produce oil at a cost below the price of imported oil.

What are the supply-side costs of crude oil price controls? Assuming (somewhat conservatively) that a 1 percent increase in price causes a one-tenth of 1 percent increase in production from existing wells, the cost of discouraging production from existing supply sources is about $800 million a year. Assuming that production from newly developed wells shows a one-half of a percent increase in response to a 1 percent increase in price, the cost of discouraging the development of new supply sources is about $1.2 billion.

The total $2 billion estimate of the annual supply-side costs of controls is likely to be an underestimate if price controls have increased the uncertainty of investors who develop new supply sources. Though newly producing oil properties qualify for upper-tier prices today, there is no guarantee they will tomorrow. Indeed, since 1971, domestic crude oil prices have been subject to no less than eight pricing schemes. If the developers of new supply sources expect to be able to sell their output at the *average* domestic price (about $11) rather than the upper-tier price (about $13), the supply-side costs are on the order of $4 billion a year.

The supply-side costs of controls are also likely to be underestimated—as are the demand-side costs—if there are unmeasured costs of overdependence on foreign crude oil that petroleum users do not take into account when buying on world markets. Such costs—from the threats to national security or macroeco-

nomic stability posed by import dependence—make the real cost of each barrel of imported oil higher than the real price paid on world markets. A $1.00 per barrel "overdependence" cost would raise the sum of the annual supply- and demand-side efficiency costs by more than $1 billion.

To summarize, even if we do not complicate things with considerations of investor uncertainty or import overdependence, the sum of the supply-side costs ($2 billion) and the demand-side costs ($0.5 billion) of petroleum price controls appears to be at least $2.5 billion a year. Inclusion of the complications which have been mentioned could double this estimate. And this is not all.

Other Costs. Private-sector costs of carrying out the administrative duties and obligations created by current regulations may be as much as $500 million annually, not counting the costs created by regulatory distortions in business transactions and competitive behavior. The *federal* administrative burden of regulation (paid for, of course, by the taxpayers) may be approaching $200 million annually. More subtle costs arise from the unambiguous support given OPEC by discouraging domestic production and subsidizing imports. And, finally, the inflexibility and inefficiency of current policies magnify the difficulties of adjusting to sudden shocks in world energy prices and supplies.

Winners and Losers under Controls

Recognition of the costs of controls is not in itself a sufficient base for major policy change. While removing the controls would avoid current inefficiencies, it would also have unavoidable "distributional" consequences—that is, it would redistribute income among the citizens of the United States. This raises the issue of fairness (or equity).

The windfall gains that accrue to crude oil producers as a result of rising oil prices are windfall losses to crude oil consumers. Of course, petroleum may be consumed either directly or indirectly. While automobile drivers and homeowners, for example, are direct consumers of gasoline and heating oil, they are by no means the only consumers adversely affected by higher oil prices. Industrial, commer-

cial, and transportation-sector buyers of energy also face higher oil prices, which raise production costs and thus raise prices of goods and services or reduce stockholder wealth in these sectors.

The burden of rising prices on the users of petroleum induces reductions in the "energy-intensiveness" of production processes and consumption patterns. Firms, industries, and sectors of the economy most able to make these reductions over time enjoy relative competitive advantages. Final consumers most able to make such reductions find their real incomes relatively less vulnerable to erosion. Indeed, over the long run, the severest burden of rising energy prices must fall on those users whose behavior is least responsive to price changes. This is particularly pertinent to one group—crude oil refiners.

Reduction of consumer demand in response to rising oil prices tends to leave current refining capacity underutilized and to discourage industry expansion. Moreover, the depressing effect of rising prices on the quantity of petroleum products demanded tends to prevent the industry from passing on to consumers the full amount of any crude oil price increases. These effects decrease the value of refiners' assets. Thus, much of the burden of crude oil price increases rests on the owners (stockholders) of oil refineries rather than on final consumers.

Needless to say, the users of crude oil, whether refiners or consumers, do not welcome increases in oil prices. It is to be expected that they will use whatever political influence they have to prevent, forestall, or otherwise avoid the distributional effects of those increases. The ensuing political struggle should not, however, be naively represented as a contest between "consumers" and "the oil companies"—an oversimplification that ignores the fundamental divergence of interests between oil companies that are primarily refiners and oil companies that are primarily crude oil producers. While raising the specter of a monolithic oil lobby has value as a tactic of political debate, it obscures the more subtle reality.

The removal of crude oil price controls would benefit producers by about $19 billion annually. Of this, $17 billion would arise from the ability to sell current production levels at world prices and $2 billion would arise as a net

gain on the additional output induced by decontrol (that is, from the removal of the supply-side inefficiency). Of the $17 billion withheld from producers on currently controlled oil, $3.3 billion is used to fund such special programs as the grants made under the Small Refiner Bias, $13.2 billion goes to crude oil users through the entitlements subsidy, and $0.5 billion (as we saw in our discussion of demand-side inefficiency) is wasted. Crude oil users include both refiners and consumers, and their division of the $13.2 billion transfer is not self-evident. Since the entitlements subsidy lowers (incremental) refining costs and encourages an expansion of the domestic refining industry, it therefore lowers the price of refined petroleum products —but not by the full amount of the entitlements transfer.

The upward pressure of refinery expansion on production costs other than crude oil costs and the negative relationship between price and demand for petroleum products prevent a full pass-through. The most generous assumption we can make without being totally at odds with available evidence is that approximately 55 percent of the entitlements subsidy is passed through to consumers. At 55 percent, consumers capture approximately $7.3 billion. Refiners retain $5.9 billion. When the impacts of special programs such as the grants to small refiners are added to those of the entitlements subsidy, the net gains of consumers and refiners are approximately $8 billion and $8.5 billion a year, respectively.

Fairness and Decontrol

If we believe any efficiency-improving policy change is fair, then obviously decontrol should be supported. And if we believe that voluntarism in exchange—that is, the freedom of the individual—is the relevant criterion for fairness (or equity), we should also support decontrol.

These views of fairness, however, seem to be side issues in the current debate where the most commonly invoked notion of equity concerns the effects of decontrol on the poor. Other things being equal, it is taken as given in the debate that a more equal distribution of income is better than a less equal distribution of income.

The egalitarian policy-maker who is concerned about the distribution of income and who would like to redistribute toward the lower end of the income scale faces a trade-off between fairness and efficiency. This trade-off arises because the implicit or explicit taxes on the rich (or "non-poor") needed to accomplish a redistribution tend to discourage income-generating investment and employment. A policy that redistributes income downward, but reduces the size of the total economic pie (so that the amount taken from the rich is greater than the amount delivered to the poor), should be supported only if the value assigned by the policy-maker to the dollars transferred to the poor exceeds the value assigned by the policy-maker to the dollars lost by the rich.

To make this sort of comparison, a decision must be made as to how much weight should be given to rich and poor. In our calculations here, we have assumed that the contribution of an extra dollar of income to the well-being of the recipient is inversely proportional to the recipient's present income. Thus, for example, it would be half as worthwhile to give a dollar to someone earning $20,000 a year as to someone earning $10,000. In keeping with available evidence, we have assumed that the consumption of energy is roughly proportional to income. We have also assumed that dollar transfers to or from industries are transfers to or from the stockholders of those industries. Consequently, redistributions among industries have no effect on fairness, the position of stockholders in the income distribution tending to be much the same from industry to industry.

The key empirical fact in analyzing the fairness of decontrol is that the distribution of stock ownership is very different from the distribution of income. If indeed, as we assume, the stockholders in petroleum-related companies are much like stockholders in general, then the percentage of stock held (by market value) in such companies varies positively with family income. In fact, given our weighting system, the distribution of stockholders implies that a dollar given to a typical petroleum product consumer has roughly twice the "equity value" of a dollar given to a typical stockholder in a crude oil producing firm. Thus, decontrol would certainly have a reverse Robin Hood effect: it would take from those whose income is weighted relatively heavily and give to those

whose income is weighted relatively lightly.

As noted, about $8 billion would be transferred from users of petroleum products to stockholders of crude oil producing companies. Part of this $8 billion, of course, is a transfer from some corporations (for example, industrial users) to other corporations (producers). We estimate that the intercorporate transfer is about $0.6 billion, leaving a net consumer-to-producer transfer of $7.4 billion. Of this, 48 percent is taken back by taxes (federal income, state income, and severance). If these tax revenues produce benefits which, like energy consumption, are approximately proportional to income, a net transfer of $3.8 billion remains. Thus, with crude oil producers given only half of the weight given to consumers, decontrol has a net fairness (or equity) cost of $1.9 billion.

This is probably a high estimate. Consumers bear a significant portion of the costs stemming from administrative burdens, support for OPEC pricing, impairment of U.S. ability to adjust to outside shocks, and overdependence on foreign oil. These costs, as we noted, are difficult to measure, but they are certainly large. If we take only the estimated $500 million current private and administrative compliance costs, and if we assume that three-fourths of these are passed directly to consumers, our estimated equity cost of decontrol declines from $1.9 billion to $1.5 billion. Similarly, if even one-half of the budget of about $200 million that is allocated to petroleum regulation could be freed by decontrol and applied to other programs, with benefits distributed roughly in proportion to income, the equity cost estimate would be reduced to $1.4 billion. Of the costs of current policies that are not readily measurable—impairment of macroeconomic adjustment, alteration of normal business practices in the petroleum industry, national security problems from increased dependence on foreign crude—it is fair to conclude that many fall on the general public, and perhaps disproportionately on those with relatively low incomes.

Comparing Gains and Losses under Decontrol

Forced to place dollar figures on the overall equity cost of decontrol—that is, its unfavorable consequences for the distribution of

wealth—we come up with something like $1.4 billion as a generous but not unreasonable estimate. The conservative estimates of supply- and demand-side gains amount to approximately $2.5 billion. Less conservative estimates would raise this closer to $4.5 billion. Certainly, an efficiency gain in the range of $2.5 to $3.5 billion (scaling down our upper limit) is unlikely to be too high. But this estimate of benefits cannot be directly compared to the $1.4 billion equity cost without specifying who it is that would receive the benefits. If all of the efficiency gain goes to producers, for example, this gain would have an equity value of one-half of the efficiency improvement.

In fact, the net supply- and demand-side gains from decontrol would accrue to producers. If we maintain our assumptions about taxes on producers and the use of tax revenues, a portion of the producer gains would be channeled back to consumers and the $2.5 to $3.5 billion efficiency gain from decontrol would have a net equity value of $1.9 to $2.6 billion. This exceeds the $1.4 billion equity cost of decontrol. Of course, from the egalitarian point of view, a windfall profits tax (with revenues used to offset the distributional effects of decontrol) would increase overall equity still more than decontrol by itself; but the point here is that decontrol, even without such a tax, would have benefits that exceed its costs.

> ... even with standards of social justice that find the prospective transfer of income from consumers to producers highly inequitable, the efficiency gains from decontrol are dominant.

In short, our analysis indicates that, even with standards of social justice that find the prospective transfer of income from consumers to producers highly inequitable, the efficiency gains from decontrol are dominant. Consequently, with full cognizance of the distributional implications, we recommend deregulation of domestic petroleum prices. The nation quite simply pays too great a price for trying to maintain income patterns in their pre-OPEC status and trying to forestall the adjustment to a present and future of rising energy prices. ∎