

Changing Horses in Midstream

Deregulation of electric power generation and transmission can benefit consumers where they pay a high kilowatt-hour price. Efficient transmission of low-cost power into high-cost areas effectively increases the supply of power and thereby competitively lowers its price. However, short-sighted and incomplete deregulation that favors consumers over producers has produced great frustration amid great opportunity.

To light even a simple 100-watt desk lamp at the flip of a switch anywhere in the country, trillions of watts of generating capacity maintain a synchronized alternating voltage between the wires leading from remote generators to the distant lamp. Across four time zones, day and night, millions of electrical devices in homes and factories connected to the country's wires or grid use those billions of kilowatts to accomplish the many things we want them to do. Moreover, because substantial amounts of electrical power cannot be stored, the generators must provide sufficient capacity to meet the largest instantaneous demand for power even though at most other times only a fraction of that capacity is used.

In the midst of electric abundance, we have come to expect that our now numerous household appliances will work as needed and without fail. We expect our street lights, telephones, TV cables, and traffic lights to function reliably. Our productive economy increasingly uses relatively safe electrical power rather than primary fuels to help produce an astonishing quantity and quality of things ranging from facial tissue through silicon chips to the space station.

Reliability is an important factor for electric power consumers. For example, although critical-care hospitals maintain emergency generators that will keep the operating lights on should a summer storm knock out electrical service, the average homeowner can await repair of downed service wires. Perhaps the most demanding of consumers, in order to respond to trillions of digital data requests per second the

network of large and small computers that serve the Internet and use perhaps 10 percent of U.S. electric power require electrical reliability to be in the "nines" or 99.9999999 percent of the time.

So that we can enjoy the substantial benefits of electrical power, electric power producers install, maintain, and operate trillions of dollars in generating and dis-

tribution facilities. As the constant-dollar cost of producing a kilowatt-hour has fallen to an historic low, demand has increased. In 1999, net U.S. electrical generation totaled 3.7 trillion kilowatt-hours and we imported another 43 billion kilowatt-hours, mostly from Canada.

Electricity is a form of energy, not a source of energy. The U.S. produced electricity (1999) from the primary energy fuels of coal (51 percent), uranium (20 percent), gas and petroleum (18.5 percent), hydroelectric (8.5 percent), and geothermal, wood, waste, wind, and solar (3 percent). For some time to come, most probably only a few of those principal fuels will be primary energy sources for electricity because of their relative abundance and low cost when compared with, say, solar energy (which is unavailable for much of the day and requires vast, expensive collectors). In contrast, world reserves of allegedly "scarce" petroleum reportedly equal 2,000 years of present annual consumption. U.S. reserves of coal also are very large, and the extractable energy in world reserves of uranium is immense.

The Importance of the Grid

As the real costs of generation and transmission of reliable electricity have decreased over time, the regulated local generation and distribution of electricity has trended toward deregulated production, distribution, and sales. Unlike a few decades ago, the nation's dispersed generating capacity now is interconnected by an increasingly efficient and reliable inter- and intrastate transmission and local distribution system that can send or "wheel" large amounts of power virtually on demand to almost any place in the country through intermediate utilities. A utility in the northeast, for example, now can sell its excess capacity to another utility or group of consumers perhaps a thousand miles away.

More to the point, independent producers now can build generating plants near mines, natural gas fields, and pipelines or near secondary users of the waste heat energy and ship the

Average Revenue Cents per Kilowatt-hour by State, 1998

NH	11.93	TX	6.07
HI	11.56	IA	6.04
NY	10.71	MS	5.98
CT	10.30	CO	5.95
NJ	10.17	VA	5.88
AK	9.97	AR	5.78
VT	9.83	LA	5.78
ME	9.75	NV	5.76
MA	9.59	MN	5.71
RI	9.58	ND	5.70
CA	9.03	TN	5.62
PA	7.86	AL	5.56
IL	7.46	SC	5.53
D.C.	7.41	WI	5.44
AZ	7.33	OK	5.43
MI	7.09	IN	5.34
FL	7.01	NE	5.30
MD	6.99	UT	5.16
DE	6.88	WV	5.07
NM	6.78	OR	4.90
NC	6.45	MT	4.80
GA	6.40	WY	4.31
OH	6.38	KY	4.16
KS	6.28	WA	4.03
SD	6.26	ID	4.02
MO	6.08		

Note: Average revenue per kilowatt-hour = revenue from all end-user sectors divided by sales. Sales in deregulated retail markets not included.

electricity under long-term contract to diverse consumers who otherwise would pay more for their electricity. Those modern, efficient, and low-cost generators have attracted the attention of regulators who recognize the economic value to consumers of competition among energy suppliers. Now that the entire nation is electrically well interconnected, deregulation is an option for those states paying high electrical power costs amid growing electric supply competition.

Many states already have, in varying degrees, deregulated their electric producers. However, the transition from regulated to deregulated utilities takes time and some contingency planning. Arrangements based on agreements between the utilities and their regulators are the result of long-standing political negotiations among interested, at times coercive, parties. Deregulation is a major disruption for utilities that made long-term generating investments based on continuing regulation. If these utilities now must compete with unregulated generators, they have reason to ask their deregulators to compensate them for costly investments required by regulation and expensed under regulated rates of return to investors that have been rendered uneconomical by the cheaper power now available from other U.S. and neighboring producers.

Also, deregulation hopes to capture savings from reduced commitment to long-term contracting for primary energy fuels as spot-market prices may fall. Because a modern generator may burn a mix of pulverized coal and natural gas one day and gas and/or oil another, the operator may choose the lowest-price fuel from among several. The competitive advantage for generators to switch fuels and to forgo risk-reducing, long-term energy contracts, however, works well only as long as fuel prices decrease. In short, deregulation is tantamount to changing horses in mid-stream, where one risks a humiliating drenching if not a catastrophe.

Incomplete Deregulation

California's experience with incomplete deregulation since March 1998 may be such a dampening experience. California's economy has grown faster than the Nation's and faster than its public and private utility planners' power provisions. Stymied by popular opposition to new plants (not in my back yard!), no major plant has been added in perhaps 15 years. Once flush with surplus generating capacity, California now im-

ports 20 percent of its electricity and shipping it around the state is "congesting" some local transmission lines that supply rapidly growing areas.

Also, for politically popular environmental reasons, what generating additions have been made were almost all natural-gas fired, powering a new summer peak of natural-gas-fired generation for air conditioning. That historic increase in demand, combined with reduced drilling nationwide for natural gas, last summer and this winter stunningly reversed the previous long slide in the price of natural gas sold to retail and wholesale generators.

Other important factors combined to dunk California. Deregulators did not allow generators to diversify cost risks with long-term natural gas price contracts, forcing generators to buy in the spot market at the same time as spot prices ballooned due to high demand and short supply.

California's theoretical generation capacity approximates 48,000 megawatts (Mw). However, some 10,500 Mw are unavailable due to planned and unplanned maintenance. That loss of capacity is a large part of the reason that California barely can meet demand of some 31,000 Mw, well below that predicted for the summer of 2001.

A long-term solution is years away but the shortage will ease as maintenance is completed and power units go on-line. As reported in *Engineering News Record*, 1/29/2001, some 2,412 Mw soon will be on line and another 1,940 Mw are under construction. Some 6,800 Mw are in the approval process.

Moreover, regulators at first refused to let the generators pass along the increased primary energy costs to consumers. Without a price signal to conserve, Californian consumers partied on. When regulators allowed some of the price increase to reach retail buyers, politically powerful consumer advocacy groups demanded caps on such increases. The major California utilities, forced to buy high and sell low, quickly ate up their cash reserves and their lines of credit. Without a positive cash flow, their bonds were downgraded, further eroding borrowing potential. Financially strapped, the utilities soon suffered the indignity of being unable to buy fuel for their generators because the primary fuel suppliers feared nonpayment. Such a "Catch 22" situation is hardly an example of either deregulation or free markets.

Adding Insult to Injury

Combined with such uncertainties was

the loss some weeks ago of 25 percent of the state's generating capacity owing to necessary maintenance and repairs and to air pollution permit limits that shut down some older plants for the remainder of the year. Adding insult to injury, low water levels in neighboring states curtailed much-anticipated exports of low-cost hydroelectricity to California.

The state power agency compounded other economic failings with erratic actions. As wholesale power prices rose, the agency capped the price, inducing generators to sell their power elsewhere. Forced to drop the cap or lose the power, the inexperienced and largely unaccountable agency saw the wholesale price rise from \$250 a megawatt-hour to \$1,500 a megawatt-hour. (Governor Gray signed an emergency order on January 17 assigning purchase oversight to the Department of Water Resources, an experienced power buyer.) Then, to buy time for the beleaguered deregulators, at California's request the Federal Energy Regulatory Commission stepped into the crisis with caps of their own and short-term orders to 75 western wholesalers to sell their power to the failing utilities now and worry about repayment later, perhaps from California's general tax revenues. As blame for the mess escalated, California's neighbors expressed fears that under any Federal bailout scenario they in effect would bear much of the avoided cost of California's exceptionally strict environmental laws.

All this from the state that has commanded two percent of cars offered for sale in California be electric-powered vehicles meeting its 2003 Zero Emission Vehicle mandate.

How Not to Deregulate

Regaining electrical power independence and capturing the savings from competitive power producers does not require California, or any other state, to become electrically self-sufficient from within its state boundary. It does require its deregulated electrical retail and wholesale producers and their energy suppliers to continue the historical diversification trend in primary fuel input as they weigh the long-term risk and reward of building new capacity *before* demand overtakes supply. At the least, it would seem that politically driven restrictions on siting major new plants should be reviewed in the cold light of the existing potential for — indeed, the high probability of — recurring local power generation and transmission crises.

In the current circumstance one might

hope that, for once, practical considerations would prevail over extreme views about the theoretical environmental consequences of enlarging the electric supply. Given the immediate risk of harm to the public, common sense alone would seem to require that distant hypothetical dangers take a back seat to current needs — and that the vast body of scientific information affirming that public health benefits from more, not less, electric power, even when it comes from demonized fossil and nuclear fuels, be given due consideration.

California's efforts to date have become an object lesson in how not to deregulate and their implications possibly are severe. Should supply unreliability continue for long, the question will be whether California's innovative and large economy will stagnate as other states with excess power successfully compete for business with low power rates and taxes. Many other states also are deregulating and may face similar problems, a circumstance that has provoked an after-the-fact warning about the perils of partial deregulation even from Fed Chairman Alan Greenspan.

While a tempting gambit for the region's politicians, capping prices or invoking related "consumer protection"

measures would seem to be seriously short-sighted. Under earlier regulation, allowance was made for a competitive rate of return to investors. Under deregulation, long-term planning for large plants, whether powered by coal, dams, or uranium, requires long-term contractual assurances that investments returning costs and interest over perhaps 40 years will not be expropriated by state action. That, above all else, would seem to require further deregulation of the demand side of the electric power industry which, like it or not, is not immune to the laws of economics.

It is well-established that in market economies, goods and services whose prices fall below the costs of production (whether owing to regulation or market preference matters not) will eventually become unavailable. In various places and times, such circumstance has provoked shortages of almost everything — food, clothing, medicine, etc. In an advanced economy such as ours, for goods that can be stockpiled it may take some months or even years before the discipline of the market prevails and the shelves are emptied. But for electricity, shortages can occur very quickly. That is why the lights are going out in California. □

forecast for the Federal government, the most basic argument for the estate tax would seem to have lost all cogency. Advocates of the tax have kept it in place for other reasons.

Ever since the "Progressive Era" the main argument for the estate tax has been the "need" to prevent the concentration of wealth. Presumably this is not only why the World War I tax was kept on the books, but also why the rates reached confiscatory levels, well above the rates of a few pennies on the dollar levied in the earlier death duties.

It may be debated whether or not it is desirable for the government to prevent the concentration of wealth. However, for the purposes of the current discussion, the more important issue is whether the estate tax is an effective means of doing so. That the tax is levied on estates, rather than inheritances, strongly suggests that revenue (rather than the dispersal of wealth) was the primary consideration of its design. The tax on a very large estate will be the same whether it is left to twenty heirs or only one. Presumably a tax on what heirs receive, rather than what the decedent owned, would better serve the purposes of egalitarianism.

In any event, experts, even those of a generally egalitarian persuasion, who have examined the question of the effect of inheritances on inequality, have concluded that they are not a major factor and that the taxation of estates and inheritances has little effect on inequality.

One reason for this is that legacies are not a major determinant of inequalities of either wealth or income. Alan Blinder, in his *Toward an Economic Theory of Income Determination*, found that the unequal distribution of inherited wealth accounted for only about 2 percent of income inequality. Thomas Stanley and William Danko, in their book *The Millionaire Next Door*, found that only 14 percent of millionaires cite inheritance as the source of their wealth. Most millionaires received nothing at all and 80 percent received less than 10 percent of their holdings through inheritance. These authors found that inheritances were dwarfed by more important sources of inequality such as differences in productive effort, money management, and the extent to which individuals live within their means.

Nevertheless, estate-tax advocates often assert with satisfaction that because the estate tax only takes a big bite out of the very largest estates, the cause of equity is advanced to some extent. However, there are so many possibilities for avoidance that the estate tax is in many respects a voluntary tax.

WHY DO WE HAVE A DEATH TAX, ANYWAY?

Critics deride efforts to repeal the estate and gift tax (its opponents usually call it the "Death Tax") as a "giveaway" to the "rich." However, the estate and gift tax probably causes more disruption and distortion of economic activity in relation to the revenue raised than any other tax. It is becoming increasingly evident that the rationales for the tax are spurious on many grounds. The prospects for genuine reform appear good.

President Bush is asking Congress to repeal the estate and gift tax, along the lines of the bill that Congress passed last year that was vetoed by President Clinton.

The Federal government first taxed estates more than 200 years ago. In 1797 Congress required tax stamps to be purchased on probated estates. The revenue was to be used to finance a naval buildup to deal with tensions on the sea lanes. These tax stamps were abolished five years later. Congress enacted an inheritance tax in 1862 to help pay for the Civil War, but it too was abolished by 1870. Congress again taxed estates in 1898, to pay for the Spanish American War, and again let it lapse in 1902.

As this history suggests, the original impetus for taxing estates was pure expediency. Probate court records require evaluations and appraisals to facilitate the

settlement and division of estates among heirs. As such they presented a convenient object of taxation when the government needed money. Clearly, the expediency of estate taxes was long seen as just that—when the government's need passed, the tax was dropped.

The Federal estate tax was reintroduced in 1916, in preparation for World War I. It has existed in various forms ever since. Although the impetus of expediency has never really gone away—there are always those who assert that the government needs money—the fact of the matter is that death duties have never been a significant source of the Treasury's revenues. Even with the prices of securities and real estate at unprecedentedly high levels, estate and gift tax revenue only accounted for about 1.5 percent of Treasury receipts in 1999 and 2000. With gigantic budget surpluses

Fairness, Simplicity and Efficiency

According to the 1996 Economic Report of the President, “Three main traits define a well-designed tax system: fairness, economic efficiency, and simplicity.” The estate tax fails to meet these criteria.

Fairness in taxation has two dimensions, horizontal and vertical. The latter calls for those with more resources to pay more in tax, while the former calls for those with equal resources to pay equal taxes.

However, virtually any individual who invests sufficient time, energy and money in estate-tax-avoidance strategies is capable of greatly reducing the tax or of escaping it altogether. The only reason individuals submit to the tax at all is either ignorance of the available avoidance options or their conclusion that the avoidance options are too costly. Thus the large number of tax-avoidance options permitted under the estate tax means that the tax will result in a tax burden distributed unfairly among payers, because as economist Alicia Munnell observed, “tax liabilities depend on the skill of the estate planner, rather than on capacity to pay.”

Efficiency in taxation is measured by the cost of its collection, not only in terms of the cost of administration, but also, and far more importantly, the costs and burdens placed on the taxpayer over and above and in relation to the amount of the tax. Munnell found that: “In the United States, resources spent on avoiding wealth transfer taxes are of the same general magnitude as the [revenue] yield, suggesting that the ratio of excess burden to revenue of wealth transfer taxes is among the highest of all taxes.” Resources spent on the pure mechanics of tax avoidance are resources that have been diverted from more productive uses.

Even more significant, high estate-tax rates create some perverse incentives that tend to subvert generally egalitarian goals in other ways. Advocates of the estate tax do not seem to have a very clear notion either of what they would like to achieve or of the incentives created by the tax. Is the goal to be greater equality of wealth or of consumption?

The prospect of estate taxes at marginal rates of up to 60 percent is a powerful incentive to avoid it. Perhaps the most important mechanism by which estate taxes on very large estates are reduced is large *inter vivos* gifts to potential heirs. The larger the estate, the larger such gifts and the earlier in the heir’s lives they begin. Increasing the numbers of relatively young adults enjoying resources they did not earn is unlikely to be what the egalitarians have in mind. We doubt that larger mansions, yachts, fancier dinners, etc., are

what they have in mind either. Yet, what one doesn’t give away to heirs might as well be consumed—most of the tab will eventually go to Uncle Sam.

The estate tax thus retards the long-term formation of capital by encouraging short-term consumption. Clearly, the amount paid in estate and gift taxes each year reduces the amount of capital. Estimates of the amount of potential private savings that are diverted to consumption via the incentives created by the tax are largely conjectural, but typically run far in excess of the tax itself and the costs of compliance and avoidance. No one believes that retarding capital growth is a desirable goal—capital benefits many besides its owners, and punishing the owners for their accumulations can affect others too, most obviously when a closely-held business is liquidated to pay estate taxes and putting its employees out of work.

Charities

Another argument in favor of the estate tax is that it encourages charitable bequests. The notion seems to be that many individuals facing a large estate tax decide that they would rather see their money go to a charity of their selection than to Uncle Sam.

But tax incentives are by no means the only or even the predominant reason people give to charities. Churches, hospitals, universities, and other charities flourished long before there was an estate tax (or an income tax). In any event, charitable bequests are not a major source of funds for nonprofit institutions. In 1994, the gross revenues of such organizations totaled \$619 billion, of which \$9.3 billion came from charitable bequests. Over the 1992-95 period, only 18 percent of taxable estates claimed a charitable deduction and only about half of estates valued at more than \$20 million had such claims. In fact, a relatively small number of estates accounted for the bulk of the giving (during the same period, 555 returns accounted for 39 percent). It should be clear that the heirs of such large estates were generally well provided for, and that the gifts reflected factors other than the estate-tax savings. In fact, there is evidence that those who have made large charitable bequests typically were not large donors when they were

alive—the timing of charitable giving may reflect factors other than the tax incentives.

“Carried Over” or “Stepped Up”

A final argument for the estate tax is that it enables the government to tax the accumulated unrealized capital gains that were not taxed during a decedent’s lifetime. To the extent that this argument has any merit, it reflects a “blunderbuss” approach. Estate taxes will be the same whether the estate represents highly appreciated assets or interest compounded in savings accounts.

With Congressional majorities and a new President in favor of repeal, prospects for ending the estate tax appear good. What to do about gains taxes could be a focus of debate, because, under current rules, heirs take the value as of the decedent’s death (a “stepped up” basis) as the cost of any assets they receive by bequest. If the estate tax is repealed and the “stepping up” procedure is retained, then the decedent’s unrealized gains will never be taxed in any way. (Some have even suggested that, in the absence of gift taxes, it might be possible to “step up” the basis of an appreciated stock, say, by giving it to a dying relative or friend who would give it back by will).

On the other hand, if the heir’s cost basis remained what the decedent paid for an asset (a “carried-over” basis), two other problems arise. First, not every one keeps detailed records and it may simply not be feasible for an executor to determine what was paid for the assets included in the estate. Second, if all asset transfers by will gave the heirs a “carried forward” basis, then large numbers of future heirs (especially heirs of estates not now subject to tax at all) would be facing potential capital gains taxes that are larger than estate taxes due under current law.

Reportedly, President Bush is not proposing to change the “stepped up” basis for heirs. We would expect that if Congress does require any heirs to “carry forward” the original cost of an asset, it will only be those who are receiving assets valued at levels at which substantial estate taxes are due under current law. Such relatively large estates will be more likely to have the records needed to establish a “carryover basis.” □

PRICE OF GOLD

	1999 Feb. 11	2000 Feb. 10	— 2001 —	
			Feb. 1	Feb. 8
Final fixing in London	\$287.30	\$309.00	\$267.65	\$262.95

Research Reports (ISSN 0034-5407) (USPS 311-190) is published twice a month at Great Barrington, Massachusetts 01230 by American Institute for Economic Research, a nonprofit, scientific, educational, and charitable organization. Periodical postage paid at Great Barrington, Massachusetts 01230. Sustaining memberships: \$16 per quarter or \$59 per year. POSTMASTER: Send address changes to **Research Reports**, American Institute for Economic Research, Great Barrington, Massachusetts 01230.