A Principled Approach to the Stranded Cost Issue

_It is improper and inefficient for government to sanction mistakes of the private sector by taxing consumers in order to rescue producers, as stranded cost recovery does. Denial of such recovery is consistent with the role of the regulator as a substitute for market forces. Indeed, it is required by it._

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Proponents of stranded cost recovery base their case on two simple propositions. First, retail competition will reduce industry revenues. Because of this, net cash flows will not be sufficient to amortize some of the investments made by electric utilities. The second proposition is based on the statutory language creating public utility commissions: Rates are to be set by regulators so that they provide a fair rate of return to investors.

Although the financial impact will vary widely across utilities, there is little doubt that deregulation will impose financial distress on some firms. However, this is not in and of itself a basis for stranded cost recovery, because firms in unregulated markets face the prospect of failing to recover their investment on a continuous basis. The crux of the issue rests on the interpretation of the second proposition; i.e., what does a “fair rate of return” mean? Proponents of recovery insist that all investment projects initiated by utilities with the consent of regulators are entitled to receive the agreed upon fair rate of return until these projects are fully amortized. If competition renders this impossible, proponents argue that stranded cost recovery be implemented to make up the difference. We differ with this view.

I. Serving the Public Interest in Rate Regulation

An objective evaluation of the case for stranded cost recovery should rest on three basic premises. These premises are derived from answering the following questions. First, what is the role of the public utility regulatory commission? Second, what are the rights and responsibilities of the regulated utilities? Third, what are the roles of investors and consumers in the regulated utility industry?

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A. The Role of the Regulatory Commission

The public interest rationale for regulation by a public utility commission is straightforward. To take advantage of local economies of scale, the commission licenses a single utility to provide service, thereby avoiding unnecessary duplication. The licensing of a single provider confers monopoly pricing power to the utility in the absence of further action by the commission. To address this, the utility’s rates are regulated. The primary intent of this regulation is to deliver prices that reflect the costs of providing power.

In order to induce investors to provide service under these conditions, the commission must set rates so that expected returns to utility investments are attractive relative to other opportunities, otherwise insufficient investment in electricity will occur. Hence, the rates allowed by the commission are designed to yield what is called a "fair" rate of return to qualified investments made by the utility. Nevertheless, rate of return regulation under this principle does not as a practical matter and cannot as a theoretical matter deliver a guaranteed rate of return. Nor can it indemnify the utility against all events in a risky world. In setting a fair rate of return on qualified investments, the commission’s aim is to engender sufficient production at a competitive price, not to grant an entitlement.

There are sound reasons why the competitive market outcome is an appropriate benchmark for the regulatory commission. Competitive forces induce firms to produce at minimum possible costs, and drive prices down to these costs, eliminating excess profits. The commission is designed to deliver these salutary results in a setting where direct competition is precluded. Standard economic theory implies that this objective is a reasonable one because competitive market outcomes generally yield maximum social welfare.

B. Rights and Responsibilities of Electric Utilities

Under regulation, it is the responsibility of the electric utility to deliver reliable power at minimum possible cost. The regulated utility must make investments that are efficient and engage in efficient business practices. In the unregulated business world, competitive pressures induce businesses to operate efficiently, providing consumers with the desired combination of quality and price for goods and services. In the regulated utility industry, it is incumbent upon the utility to choose cost minimizing methods for serving its customers. The regulatory commission is an overseer that attempts to insure that this takes place. However, it is the utility’s management that is responsible for making decisions that are in the public interest and maximize the value of the firm.

The utility undertakes investment with the approval of the regulatory commission, but the utility is not generally directed to make specific investments by the commission. The utility projects future

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2 Regulation has not precluded utility bankruptcy.

3 If it were, the issue would be a simple one. The commission would be viewed as an agent of the consuming public that writes a cost-plus contract with the utility. In this scenario the utility is similar to a construction firm. For making mandated investments in power production, the utility would be paid its expenses plus an operating margin, amortized over a 20 or 30 year period. If regulation took the form of cost-plus contracting, this would clearly burden the regulatory commission with the responsibility of compensating the utility for stranded costs as a result of deregulation. Although cost-plus contracts are used in the construction industry and elsewhere, they are an inappropriate model for utility regulation for two reasons. First, these contracts are generally created via a competitive bidding process, thereby allocating the contract to the lowest cost producer. Competitive bidding has
sales and determines whether it should build new facilities. The utility must prove to the commission that the new plant is useful to the public. The commission then allows rates that are expected to amortize the investment and generate a fair return on shareholder equity. Even so, the method of calculating electricity prices—based on the allowed rate of return on investment at the time that the asset is allowed into the rate base—is not a grant of an entitlement to the utility for this revenue. It is simply a mechanical procedure to set a price that most closely mimics the price that would prevail in a competitive market.

C. The Roles of Investors and the Rights of Consumers

Investors voluntarily accept risk when capital expenditures are made; consumers do not. This is the pattern in virtually all lines of commerce. As a general matter, investors put their money at risk and hope to earn positive returns from efficient, well managed enterprises. At the same time, they know that they may suffer negative returns from projects that prove inefficient due to poor management or bad luck.

In unregulated markets, variation in returns according the skill and success of firms allows efficient firms to attract capital and inefficient firms or managers to be replaced. These forces are muted when the rate of return does not vary according to the efficiency with which a business is run. This causes investment capital to be poorly allocated across the economy.

In the utility industry, the regulator is the arbiter of whether costs incurred by the utility were prudently incurred. If so, the allowed rate of return is applied to these costs. That investments receive this initial sanction by the commission does not mean that they are granted a guaranteed return of this amount throughout their life. Initial approval by the commission means that an investment is judged to be efficient ex ante. The fair rate of return applied to the investment is a way for the commission to set a price for the output of the firm delivered to the consumer that approximates what the competitive price would be. Competitive prices change and so, too, should regulated prices.

Investments that are efficient ex ante can become unprofitable ex post. This is true in private markets and in regulated markets. In private markets, competition determines the price of output and by that, the return on investments. If the price of output falls, investors suffer shortfalls in the return that they expected ex ante. In regulated markets—since the role of the commission to set a price of output that mimics the price that would prevail in a competitive setting—the commission should meet its duty to consumers even if this price is insufficient to generate the return investors expected ex ante. Investors are never guaranteed their ex ante expected return in either private or regulated markets. Capital markets exist in order to spread the risk of investment outcomes in a way that minimizes their impact. Indeed, in a healthy capital market, the risk that one product will fail—because it is supplanted by another—imposes no risk on well-diversified investors.

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4 In most states the utility must apply for a Certificate of Convenience and Necessity (CCN) before being allowed to invest and build plant. The burden is on the utility to prove to the commission that the investment to be made is for the public convenience and that the investment is necessary for the public. However, the acquisition of a CCN is not a statement or a guarantee that the costs of the facility in which the utility invested will be borne by consumers.
Electricity consumers are passive in the regulated market, since they cannot exercise their normal role of choosing among alternative suppliers. They are served by a single utility and the regulatory commission and therefore depend upon both institutions act in good faith, in the overall public interest. It is plainly inefficient, not to say unfair, to have passive consumers, with no alternative choices, bear the risk of bad utility investments.

To the extent that utilities invest excessively and the regulator allows inefficient expenditures into the rate base, consumers and the overall public interest are both ill served. Excessive costs are incurred as a result, reflecting the inefficient diversion of scarce resources into this sector of the economy. Consumers are penalized in the form of higher prices and have no recourse but to suffer these. This diversion of resources into the utility sector necessarily means that resources are denied to other sectors of the economy. This causes under-investment in these other sectors and hence reduces social welfare.

II. Applying the Principles to the Stranded Cost Issue

We now assess the issue of stranded costs from the perspective of the roles defined above for each participant in the regulated utility industry. The basic question is, Should stranded costs be recovered through regulatory fiat if they cannot be realized in the competitive market? We address this question from two perspectives.

A. Returns on Investment: Ex-Ante vs. Ex-Post Efficiency

It is the role of the public utility commission acting in the public interest to determine if investment programs of the utility are efficient in an ex ante sense. If investments are judged to be prudent before the fact, the public utility commission allows them to be undertaken and allows the utility to earn a fair rate of return. “Fair” does not mean “guaranteed.” The fair rate of return is simply a way for the commission to approximate what would be the competitive market price given the information available at the time the commission approves the investment.

It does not follow from the process of public interest rate-regulation that the public utility commission should indemnify the utility from all unforeseen events through rate adjustment or other charges. Unforeseen changes may make some ex-ante efficient projects losers in the normal course of business in any industry. The proper role for the public utility commission is to act as a replacement for competitive market rivalry. Hence, it should attempt to emulate the result that the market would deliver in the event of significant changes in market conditions.

A hypothetical example illustrates the point. Consider what would happen if electricity were supplanted by another form of energy. What if breakthroughs in solar technology allowed consumers to heat and cool their homes at virtually zero cost? Clearly, utility sales and profits would evaporate. The exclusive territories granted to the utilities would be a moot point in this case, since consumers could leave their current suppliers without contracting with another utility outside the territory. The investments made by utilities could not be recovered except by taxes levied on the general public.

If such a breakthrough actually took place, there could be no claim that investors are “fairly” owed compensation for this otherwise fortuitous event. Investments in the ordinary business world fail for similar reasons on a continuous basis. New products that consumers find appealing cause
returns to investments in competing products to decline. That is the nature of business and the risk that investors protect against by diversification.

New generation technologies and recent advances in system control are unforeseen technological developments similar to the hypothetical scenario considered above. Because of these, consumers now have an attractive alternative source of energy besides their local utility. This real world case differs from the hypothetical scenario in that regulators must explicitly grant consumers the right to by-pass the local energy generation source by granting open access to the local distribution system.

How should the consequences of industry change be viewed by the three groups involved? That is, what is the proper role for the public utility commission, the utilities, and consumers in dealing with this technological innovation? The answer is clear. The commission should treat this breakthrough just as the market would in any other industry because the commission’s role is to guide the industry as if it were competitive. The proper role for utilities is for their financial investors to bear the burden of the lost revenues and lower profits because investors are supposed to be diversified against this outcome. Finally, consumers should be presented the menu of choices provided by competitive suppliers.

Some will argue that it is possible that utility investors may have assumed that they were guaranteed a return even though the theoretical model of rate regulation is not founded on this principle. However, as an empirical matter, it is clear that financial investors have never viewed investment in the electric utility industry as risk free. If they did, then the debt of public utilities should have the same risk level as nonrecourse government bonds. Even a superficial analysis of bond prices and yields reveals that electric utility debt has a higher return. This means that investment in electric utility bonds is higher risk than comparable risk-free government securities.

The facts speak for themselves. Yields to electric utility and government bonds for the period 1985-1990 averaged 9.91 and 8.74 percent, respectively. Also, the electric utility yield was higher in each year. These facts imply that electric utility investment is not risk free. If investors expected a guaranteed return, the difference should average zero, but it does not. Also, the yield on utility bonds and the return on utility stocks vary in predictable ways based on the theory that both of these have an embedded risk premium. For instance, coupon interest rates and yields to utility bonds vary according to the ratings issued by investment services like Moody’s and Standard & Poor’s. These ratings are based on the riskiness of each company. In addition, two groups of researchers analyzed the response of the financial markets to the Three Mile Island accident. Barrett, et al., found that the risk premium in utility bonds increased 20 to 30 basis points following the accident.5 Bowen, et al., conclude from stock market movements that “Investors appear to believe that losses to utilities committed to nuclear energy will not be fully compensated” as a result of the Three Mile Island accident.6 The evidence is clear that investors have always recognized that there is no such thing as a guaranteed return in the electric industry.

There are obvious parallels between investment in electricity generation and investment programs in other industries. Indeed, the U.S. oil industry made similar investments in the 1970s and early

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1980s in response to the so-called energy crisis that turned out to be mistakes ex post. Expensive offshore exploration and development programs in the North Sea, the China Sea, and elsewhere were undertaken that would have been profitable had the world price of oil continued to increase as was projected at the time. When oil prices fell, the projects became big losers. Oil companies were characterized in the finance literature as investing $2 in development costs in order to obtain $1 worth of oil revenues in present value. The world did not turn out as the oil companies had projected, and positive returns on investment were not to be realized. Market forces caused many of these development programs to be shelved indefinitely.

Similar events occurred in the natural gas industry. The price of gas was highly regulated in the 1970s and 1980s. Regulation encouraged companies to drill deep wells and in tight sands in order to realize the high prices that these wells were allowed to receive. When gas was deregulated these wells became unprofitable because the price of gas fell so precipitously.

The regulated railroad industry provides an even stronger parallel example. Technological advances in air and motor travel combined with public investments in highways and air traffic control to make passenger railway service obsolete. Railroads provided passenger service under terms similar to those established in the electric utility industry. The railroad applied for a certificate of convenience and necessity and once having obtained it, had an obligation to serve. The ICC limited entry and thus competition, and as a consequence regulated rates. The development of alternative transport meant that past investments in passenger railways could not be salvaged. The decreased demand for railway traffic meant that regulated rates were insufficient to recover costs.

Unanticipated changes in technology rendered the regulator incapable of allowing the regulated firm to recoup its investment. The result was that many railroads—firms which were issued a certificate of convenience and public necessity, with an obligation to serve, and subject to rate regulation—went bankrupt in the 1960s. They were not granted stranded cost recovery when unanticipated technological change made their past investments inefficient ex post.

B. Does It Matter Whether Excess Generation was Ex Ante Efficient?

The argument against the recovery of stranded cost does not depend on whether the investment in generation in the electric industry was prudent. The question before regulatory commissions is whether to move now to competition through open access. In doing so the losses the industry stands to suffer are the product either of (1) unanticipated technological developments that normally impose losses on investors in the capital market or (2) inefficient investment in generation that took place under the old regulatory regime. In either case, it is contrary to the public interest to rescue investments that turn out to have been mistakes ex post.

If stranded costs are the result of unanticipated developments that cause investments, which were efficient ex ante, to decline in value, investors are the proper parties to bear the risk, not

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7 Amtrak was created to provide public railway passenger service once it became clear that it was unprofitable for private railroads to serve this function. Amtrak acquired assets such as passenger cars, spare parts, and supplies from private railroads, but in so doing did not compensate railroads for their ex post bad investments. The Atchison, Topeka and Santa Fe, for example, sold these assets to Amtrak for $12.3 million, creating a net bookkeeping loss on these assets of $30.8 million. See Keith L. Bryant, Jr., History of the Atchison, Topeka, and Santa Fe Railway 358 (Macmillan, 1974). Note also that railroads were forced into bankruptcy well before Amtrak was created, hence Amtrak cannot be construed in any way as a bailout of the regulated railroads.
consumers. This is the case whether the industry is regulated or not.

If the investments were inefficiently excessive, then there is obviously no case for recovery. The regulatory regime failed in its primary purpose of protecting consumers. Utilities failed to pursue investment programs in the public interest as statutorily defined. Regulators failed in their role as a stand-in for competitive market forces. Consumers have been paying the consequences for many years. If investments were inefficient ex ante, stranded cost recovery merely extends this period of inefficiency into the future, and should be flatly denied.

IV. Conclusions

The case against stranded cost recovery is a strong one, whether investments in generation were efficient ex ante or not. This is the unavoidable conclusion once the proper role of the regulator, utilities, investors, and consumers in the regulatory system of the past century is clearly identified. It is improper and inefficient for government to sanction the mistakes of the private sector by taxing consumers in order to rescue producers. This is precisely what stranded cost recovery does. Denial of stranded cost recovery is consistent with the role of the regulator as a substitute for salutary market forces and, indeed, is required by it.