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Regulated Industries’ Automatic Cost of Service Adjustment Clauses: Do They Increase or Decrease Cost to the Consumer?

Elizabeth Warren*

I. Introduction

Inflation in the past decade has affected both the overall financial condition of public utilities and the rates they charge. Utility bills have risen sharply, stimulating public interest in ratemaking. Both the utilities, who want increased earnings, and the consuming public, who want low utility bills, have exerted substantial pressure on regulatory commissions and on legislatures. Utility commissions have proposed numerous regulatory changes. In attempting to provide quick, visible solutions, the commissions and the courts have accepted a patchwork of pricing techniques without consistently considering their impact on total customer costs.

Among the hundreds of regulatory changes proposed, the automatic cost of service adjustment clause has been the primary one used to offset the impact of inflation on production costs. Individual proposals differ markedly, but in general the clauses propose to pass through to the customer the utility’s costs as they are incurred. The amount a customer pays for the utility service would vary directly with the amount the utility expended to produce the service.

The automatic cost adjustment clause has been debated in popular and professional literature as well as in the courts, commissions, and legislatures. Much of the debate has been characterized by the unquestioned acceptance of rubrics of what would cost or save consumers money. A number of varying cost pass-through clauses were rapidly accepted during the utilities’ collective financial crisis of 1974. More recently, however, many courts have begun to reevaluate the cost adjustment clauses and to review their initial acceptance of them. Regulatory commissions are beginning to exhibit ambivalence regard-

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1 In 1977 the average annual electric bill rose by almost 14%, and in 1978 it rose 8.8% to just over $3.57 annually. 1979 Statistical Report, ELECTRICAL WORLD, Mar. 15, 1979, at 51, 75. See also tables on 1976-78 increase in utility rates in Electric Rates Keep Climbing, BUS. WEEK, May 22, 1978, at 183.

2 See note 87 infra.

3 Among the new proposals or the suddenly revitalized proposals of earlier decades are interim rate relief, expedited rate-case procedures, future test periods, pro forma adjustments, end-of-period rate bases, attrition allowances, tax pass-on provisions, annual rate adjustments, and monthly fuel adjustments. Latimer, The Cost and Efficiency Revenue Adjustment Clause, PUB. UTIL. FORT., Aug. 15, 1974, at 19, 20.


5 E.g., The Fuel Adjustment Caper, 39 CONSUMER REPORTS 836, 839 (Nov. 1974) [hereinafter cited as Fuel Adjustment Caper].

6 For a thorough discussion of the positions taken by various identified consumer and utility groups, see Carver, Developments in Regulations: Adjustment Clauses, 53 DENVER L.J. 663, 665-68 (1976).

7 See note 85 infra and accompanying text.

8 Typical of courts' position is that taken in Wisconsin's Environmental Decade, Inc. v. Public Serv. Commn, 81 Wis. 2d 344, 260 N.W.2d 712 (1978). Here the court recognized that cost adjustment clauses had been used in Wisconsin since 1918, but that the "typical" adjustment clause is the "more limited" fuel adjustment clause. Id. at 714. The court ruled that "expanded adjustment clauses" violate statutory re-
ing cost adjustment. Some are permitting and some are rejecting the clauses, usually without discussion or with only superficial discussion of the effects the action will have on total consumer costs and utility service.  

There is an inherent rigidity in utility pricing without an automatic cost adjustment provision. The price remains constant for the months or years between rate hearings regardless of dramatic upward or downward changes in the cost of production. In nonregulated industries prices can be changed almost immediately to reflect changes in the cost of production. There is a sharp difference in the responsiveness of price to changes in production costs between a utility without cost adjustment clauses and a nonregulated industry. This difference reflects an inflation/regulation risk peculiar to regulated industries. This increased risk causes utilities to have high capital costs that ultimately increase total consumer costs.

To provide service, utilities must obtain capital for facility replacement and for capacity growth. If utilities are to continue to operate as regulated industries rather than as tax-subsidized government agencies, they must attract this capital on the private capital market. The comparative rigidity of utility pricing affects investment risk which raises the cost of capital to the utility. Public commissions tend to focus attention solely on the costs associated with service production, such as fuel, labor and billing costs. Capital costs, however, comprise as much as thirty percent of a utility's total operating budget. It is time for commissions to consider total consumer cost, both production costs and capital costs, when evaluating regulatory pricing schemes.

Most regulatory commissions have accepted the conventional wisdom that a fixed price between rate hearings provides an incentive for the utility to become more efficient. The support for that argument rests on unexplored, fallacious principles. Moreover, in accepting or rejecting automatic cost adjustment clauses, most commissions and writers ignore several other consequences that result from price rigidity, including production distortions, rate hearing cost increases, inefficient allocation of scarce resources and absence of cost savings pass-through.

It is the premise of this article that the purpose of a rate hearing is to determine rates that will provide continued, dependable service at the lowest possible cost to the utility customer. Utility commissions must be cognizant of all requirements to publicize utility rates because the adjusted rates vary from month to month. Id. at 715-16. That the court wished to permit some cost flow-through but to curb any expansion becomes clear when the court points out that only the “additional elements” contained in an automatic cost adjustment clause cause it to violate the statute. Id. at 716. Presumably the fuel adjustment clause will retain its judicial acceptance despite the similar variation in rates that it causes.

9 E.g., a trial court in Texas ruled on an injunction that would have permitted a temporary rate increase before the city had the opportunity to present any evidence or to cross-examine one of the company’s witnesses. City of Houston v. Houston Lighting & Power Co., 550 S.W.2d 866 (Tex. Civ. App. 1975). The appellate court ruled that this failure to consider evidence from both parties was reversible error. Id. This is obviously an extreme case of judicial disregard for the need to consider all the implications of a rate change, but the overturned ruling reflects the willingness of some courts to rule on temporary or permanent utility rates without considering all the ramifications.


The reinforcing effect of increased capital cost in a capital intensive industry is a very high total expenditure for capital. See Rakes, Trends Affecting Power Company Securities, PUB. UTIL. FORT., Aug. 31, 1978, at 26, 27, Table 1.

11 Some commentators challenge the assumption that lowest cost utility rates are necessarily in the public interest because of the need for resource conservation. It is the thesis of this article that utility services...
the effects of utility price rigidity. Ratemaking techniques which are being reevaluated or proposed for the first time must be examined in light of how they affect the utility's relative risk position in the capital market and the resulting capital costs. Moreover, the concept of deliberately promoted regulatory lag as an efficiency incentive should be reexamined. The often unanticipated effects of regulatory lag are examined in this article so that the total cost to the customer of utility pricing techniques becomes susceptible to analysis. This article is concerned with developing a long-needed theoretical framework for evaluating cost adjustment clauses and the effect such clauses may have on achieving the lowest possible utility costs.

II. Background

Automatic cost adjustment clauses have been used in some form since the First World War when rapid inflation first made them necessary. The number of clauses in use increased gradually through the early 1970's when a combination of unexpectedly high inflation and rapid deterioration in many utilities' financial integrity forced the sudden adoption of nearly twice as many clauses as had previously been in effect. Although courts and commissions have approved cost pass-through for a variety of different costs, most cost adjustment clauses adopted in recent years have been limited to passing through increases in fuel costs only. Use of the clauses has recently declined somewhat, as commissions permit them to expire or abolish them outright.

The proposals that are discussed as cost adjustment plans are remarkably varied. By way of brief comparison: New Jersey has a plan for the telephone company that permits four major categories of expenses—labor, depreciation, taxes, and other—to be reflected in various percentages in periodic rate adjustments between rate hearings. New Mexico has authorized quarterly rate adjustments if rising expenses cause the company's rate of return to deviate from a specified range between rate hearings. In Michigan, the Public Service Commission has proposed to base electricity rate adjustments on increases in the national consumer price index. It is beyond the scope of this article to compare and to evaluate particular rate adjustment plans. Instead, this article should be produced at the lowest cost even if the government ultimately decides to encourage conservation by taxing utility services and thereby depressing consumption.

13 Carver, supra note 6, at 669-73, summarizes the legal history of the automatic cost adjustment clause.
14 Fuel adjustment clauses, which are limited cost adjustment clauses, were used for residential billing for 35% of industries in 1970. By 1974 this figure had risen to 72%. Sarikas, supra note 4, at 33.
15 Hyman & Grigoli, The Credit Standing of Electric Utilities, Pub. Util. Fort., Mar. 3, 1977, at 24, 26, notes that many currently used adjustment clauses relate only to fuel adjustment and often are not fully compensatory even for fuel costs. It is for this reason that although the use of some limited types of adjustment clauses are growing, the public utilities have continued to suffer financial decline and have not enjoyed the benefits of full cost adjustment clauses discussed infra.
17 For a more complete discussion of this plan, see Backman & Kirsten, Comprehensive Adjustment Clause for Telephone Companies, Pub. Util. Fort., Mar. 28, 1974, at 21.
19 This plan was reported in Progress of Regulation, Trends and Topics: Automatic Rate Adjustment Clauses, Pub. Util. Fort., Sept. 14, 1978, at 51, 53.
develops the theoretical basis for cost adjustment clauses generally and evaluates the inherent benefits and liabilities of cost adjustment clauses rather than the benefits or liabilities as they may exist because of the peculiarities of a specific case.²⁰

Traditional regulatory procedures provide that a rate hearing be held for each utility every few years.²¹ That hearing settles what shall be the reimbursable costs,²² the rate base or investors' equity, and the allowed rate of return. Based on these cost determinations and on anticipated demand, the commission sets a price for the utility service.²³ That price is held constant until the next rate hearing.

By contrast, use of the automatic cost adjustment clause permits rates to be reestablished monthly,²⁴ if necessary. A change in an operating expense that increases utility costs is reflected in the subsequent utility bill as a cost adjustment passing through the utility's increased cost directly to the customer.²⁵ The utility neither profits nor loses money from the increased cost.

Responsiveness of price to cost is what distinguishes automatic cost adjustment clauses from escalator clauses, which are usually predetermined increments in utility rates that are automatically triggered after a certain time has elapsed since the preceding rate hearing. It is important to note that an automatic cost adjustment clause may reduce rates as well as increase them. Whenever utility costs decline or increase they are reflected in an automatic adjustment in the customer's bill.²⁶ Escalator clauses do not have the price responsiveness effects of automatic cost adjustment clauses and, therefore, do not enjoy the benefits discussed herein.

The costs referred to in the automatic cost adjustment clause are operating costs. They may include fuel costs, labor costs, maintenance supply costs, and whatever else the commission determines are "allowable costs" appropriate for cost flow-through.²⁷ Changes in capital costs as discussed in this article are

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²⁰ Automatic cost adjustment clauses in the nuclear energy field, for example, must develop with particular consideration of the technology of that field. For a full discussion of considerations relevant specifically to this field, see Smith & Lancaster, Nuclear Power's Effects on Electric Rate Making, PUB. UTIL. FORT., Feb. 2, 1978, at 16.

²¹ Five years is a fairly common time period between hearings. See, e.g., A. Priest, supra note 10, at 67-69. Because of the effects of regulatory lag, discussed infra, some critics have recently suggested shortening the period to three years. Baumol, Reasonable Rules for Rate Regulation: Plausible Policies for an Imperfect World, in PRICES: ISSUES IN THEORY, PRACTICE AND PUBLIC POLICY 115 n.7 (A. Phillips & O. Williamson, eds. 1967). The time period between rate hearings now, in many instances, has disappeared. See notes 139-42 infra and accompanying text.

²² There has been much analysis of what should and what should not be a reimbursable expense. E.g., A. Priest, supra note 10, at 45-138. See also note 27 infra and accompanying text.

²³ The rate structure, that is, what prices should be charged different classes of customers, such as private and industrial differentials, may or may not be decided by the commission. Frequently only permissible overall revenue restraints are decided. E.g., J. Bonbright, PRINCIPLES OF PUBLIC UTILITY RATES 287-90 (1961).

²⁴ It is not essential that an automatic cost adjustment plan make monthly adjustments, but a major focus of this article is on the price responsiveness of utilities using such clauses compared to the relative price inelasticity of utilities that have long periods between price adjustments. To the extent adjustments are more infrequent than monthly, an increasing amount of regulatory lag, discussed infra, is introduced, and utility price responsiveness is correspondingly reduced.

²⁵ It is irrelevant whether the cost is passed through in a separate billing adjustment reflecting the base cost and the cost adjustment separately on the customer's bill or in a single rate that is adjusted monthly.

²⁶ See notes 155-58 infra and accompanying text.

²⁷ Although cost flow-through may introduce incentive for additional scrutiny to the cost review process, much of the conceptual framework for reviewing costs has already been developed by A. Priest, supra note 10, at 45-138.
the anticipated result of the adoption of these automatic cost adjustment clauses and are, therefore, not included in the adjustment clause.

In addition to discussing the assumptions that are made with regard to the cost adjustment clauses, it is important to note the peculiarities about regulated industries which result in a particularly significant interplay between adjustment clauses and capital costs. Utilities are by far the most capital intensive corporations in the nation. Utilities must seek a high percentage of their financing through competitive capital markets, and financial analysts anticipate continued, strong competition for capital. Utilities cannot act solely in their shareholders' interests as private corporations theoretically may. As public companies, they are obligated to provide sufficient production capacity for anticipated public needs. Even if capital is expensive for them or if the effect of purchasing expensive capital is not in the best interests of present shareholders, utilities must go to the capital market to provide this production capacity. Thus, the cost a utility pays for capital is a significantly greater portion of the utility's operating budget than it is for most private corporations.

For a utility to continue to operate as a regulated industry rather than as a tax-subsidized government agency, it must be able to attract capital in a competitive capital market.

III. Corresponding Risks

The responsibility of a regulatory commission is to establish rates that balance consumer and investor interests. The key reason that the interests must be balanced is that the entire premise of regulation is violated if either interest is shortchanged. If consumers are ignored, the utility will collect monopoly profits, thereby belying of the assumption that the government licenses utilities for "the public good." If the investors are ignored, the industry will fail to attract future capital and will either cease to operate or will be able to operate only with tax-collected dollars and function essentially as a government agency.

29 A. Priest, supra note 10, at 452. Approximately 60% of the funds generated in the next five years will come from the competitive capital market rather than from the utilities' internal generation of investment capital. Cavanaugh, supra note 28, at 39; Hildreth, supra note 15, at 30.
32 Levy, Fair Return on Equity for Public Utilities, 13 Bus. Econ., Sept. 1978, at 46, 55, summarizes the point:

Regulation requires utilities to provide quality service and to expand when warranted by consumer demand. Unregulated companies would generally refrain from issuing new securities if market conditions indicated that the equity of existing shareholders would be impaired. Regulated companies do not have the same leeway. They must obtain capital when needed to construct the capacity necessary to meet growing demands.

The data collected in the electric industry illustrates the squeeze on public utilities. As pretax interest coverage has dropped, capitalization has nonetheless increased, which has caused the total cost of debt to rise 40% in a five-year period. The utilities are forced to expand to meet customer demand even if the capital costs rise astronomically. Hyman & Grigoli, supra note 14, at 24, 27, Table 3.
33 See note 32 supra.
34 See notes 10 & 72 supra and accompanying text; see generally Hyman & Grigoli, supra note 14, at 24.
Protecting the financial integrity of the public utility is in the interests of both the utility customer and the utility investor. The courts have noted that utilities must pay "just and reasonable" rates of return on capital investments to preserve their financial integrity and to assure continued service. Much attention has been focused on determining precisely what is the just and reasonable rate of return that will best insure financial integrity while at the same time protecting the customer's interest by assuring continued, efficient service at the lowest cost. In Bluefield Waterworks & Improvement Co. v. Public Service Commission, the United States Supreme Court noted:

A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures.

Although the Bluefield case is most often cited in the persistent controversy over rate base valuation, the key feature of the passage is the businesslike attitude it displays toward the function of rates. Rates must be set so that in a competitive capital market the utility will pay enough to attract capital sufficient for continued, efficient operations, but it need pay no more than similarly risk prone private companies. This is capital attraction theory at its most basic. Mr. Justice Douglas, in the landmark decision of FPC v. Hope Natural Gas Co., reiterated the guide to determining utility rates: "The return to the equity owner should be commensurate with the returns on investments in other enterprises having corresponding risks.

Regulated industries compete in the same capital market with unregulated industries. Thus they must pay at least the market rate for the capital they acquire. It is axiomatic that investors demand compensation commensurate with the risk associated with the investment. The time value of money and the degree of risk that accompanies an investment will determine the cost of capital for that investment. Because the time value of money will be the same for any regulated or nonregulated industry seeking money, it is the comparison of risk that will determine the competitive cost of capital to a particular company. This competitive risk cost is the focus of this article.

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36 E.g., J. Bonbright, supra note 23, at 50.
37 320 U.S. at 603.
38 E.g., J. Bonbright, supra note 23, at 147-283; A. Priest, supra note 10, at 191-226.
40 E.g., J. Bonbright, supra note 23, at 258.
41 320 U.S. 591 (1944). Douglas in Hope took a very different position from Butler in Bluefield on rate-base valuation on which the rates of return are computed, but both cases emphasize the corresponding risk notion of the level of rate of return. For a more complete discussion of the divergence between Hope and Bluefield on issues that are not discussed herein, see J. Bonbright, supra note 23, at 258.
42 320 U.S. at 603.
43 See note 104 infra.
45 P. Samuelson, supra note 44, at 623-24. That a fair rate of return must compensate for the time value of money plus an allowance for the degree of risk in owning the stock was recognized as early as 1908 in Willcox v. Consolidated Gas Co., 212 U.S. 19, 48-49 (1908).
The Bluefield-Hope criteria establish that a utility's rate of return should reflect the least expensive capital cost—it must be high enough to compensate for the associated risk, but it should be no higher. Utilities should pay the minimum amount possible for capital to protect the customer's interest. But so long as they are to be financed privately and not with tax subsidies, utilities have no choice but to pay enough to compete successfully for capital. The nominal test employed by a commission or a court often does not specifically mention the corresponding risk criterion. The most frequently used tests, however, focus on what rate of return will assure financial integrity sufficient for the utility to continue to attract capital.

The notion that the return on equity to a regulated industry can be measured by comparison with a similarly situated nonregulated industry has achieved widespread acceptance. The comparison appeared to be valid through the mid-1960's largely because regulated industries were able to compete effectively with low risk—and hence low capital cost—nonregulated industries for capital. The similar payment for capital suggests that during this time the nonregulated and the regulated industries had "corresponding risk."
The corresponding risk comparison appeared to be meaningful, but it was too simplistic because it focused only on total risk. During the time period in question, two risk-influencing factors had offsetting effects on regulated industries. Inflation over the ten-year period 1955-65 was nominal and relatively predictable.\textsuperscript{51} A rate-setting commission could estimate with some accuracy what inflation would be and how it would affect costs over a future time period.\textsuperscript{52} During the same time, technological advances steadily made incremental production cheaper for the public utilities.\textsuperscript{53} For example, economies of scale available in production, transmission, and distribution of electricity were generally sufficient to offset the effects of inflation.\textsuperscript{54} The cost of production, even with inflation affecting supply costs, remained nearly constant or even dropped.\textsuperscript{55} Because of the roughly compensating effects of inflation and technological advances, regulated and nonregulated industries were treated in the market as having essentially similar total risks.\textsuperscript{56} Hence, the cost of capital was similar for both types of industries.

In the mid-1960's these conditions began to change. Constant, low-level inflation gave way to erratic and much higher inflation.\textsuperscript{57} Technological advances could no longer offset inflation.\textsuperscript{58} Utility earnings declined sharply.\textsuperscript{59} The total risk to regulated and nonregulated industries then became strikingly dissimilar,\textsuperscript{60} and the difference in the composition of the risk, which had always been present, suddenly became apparent.

The different risk factors between regulated and nonregulated industries centered on differences in the ability to change service price to respond to changing economic conditions. The nonregulated industry, when faced with high, unanticipated inflation, adjusted its prices to cover its changed costs or reduced production of items with rising marginal costs.\textsuperscript{61} In a private industry, prices or output could be extremely responsive to changing cost or market conditions. So long as the rising costs affected all the competitors in a nonregulated industry similarly, the nonregulated industry could raise its price and not affect its relative position in the market or its rate of return.\textsuperscript{62} The regulated industry was, however, in a very different position.\textsuperscript{63} Regardless of how the en-

\textsuperscript{52} Gies cites the uncertainty of inflation that persists now as the key factor in raising the capital costs to reflect inflation risk. \textit{Id.} at 188-89.
\textsuperscript{54} \textit{Edison Electric Institute, supra} note 30, at 290.
\textsuperscript{55} \textit{E.g., id.} at 2; Miller, \textit{supra} note 53, at 610.
\textsuperscript{56} \textit{See} note 49 \textit{supra} and accompanying text.
\textsuperscript{58} \textit{E.g.,} \textit{Edison Electric Institute, supra} note 30, at 2; Miller, \textit{supra} note 53, at 610.
\textsuperscript{59} \textit{E.g.,} Fredman & Sharma, \textit{supra} note 49, at 24-26.
\textsuperscript{60} \textit{E.g.,} Christy & Christy, \textit{supra} note 46, at 29.
\textsuperscript{61} See M. Gordon, MSU Public Utilities Studies, \textit{The Cost of Capital to a Public Utility 52-53} (1974), for a mathematical model of the difference in pricing considerations between a regulated and a nonregulated industry when faced with rising costs from inflation.
\textsuperscript{62} This is not to assert that a nonregulated industry is unaffected by inflation or cost changes. Inflation has far-reaching effects on all industries. The point here, however, is the different effect in pricing responsiveness alone that a regulated and a nonregulated industry will face. The many similar effects felt by nonregulated and regulated industries resulting from inflation are not pertinent to risk comparison between industries.
\textsuperscript{63} "During inflation many businesses succeed, more or less, in keeping prices in line with conditions generally. Regulated utilities are not permitted to do so." Harriss, \textit{supra} note 57, at 21.
tire industry had been affected by changing costs or how inescapable paying a higher cost might be, the regulated industry whose rates had been based on costs established when prices were lower could only apply for a rate increase, go through a rate hearing, wait for a determination, litigate any appeals taken by either side, and then perhaps get the rate increase necessary to cover the cost increments that precipitated the filing. 64 Of course, sometimes the commission denied the rate increase, 65 or the rate increase was smaller than the incremental costs that prompted the application, 66 or by the time the increase was granted it was insufficient to cover the increase in costs that had occurred after the filing. 67 Even if rates were eventually set at appropriate levels, the lag in rate setting reduced interim earnings, internal capital availability and the attractiveness of the utilities in the capital market. 68

The Bluefield-Hope notion of corresponding risks focuses on the increasing capital cost for increasing risk. 69 Investors in both regulated and nonregulated industries face many similar risks, such as the risk that demand for a product will decline or the risk that management will be inept. Now that utility investors perceive that they face an additional risk—an inflation/regulation risk that future utility prices will not cover production costs and will erode the equity rate of return—the comparative cost of capital to the utility will continue to rise sharply. 70 One observer notes that utilities are getting capital for plant additions and modernization, but that the cost of such capital has exceeded the cost that would have been incurred without the inflation/regulation risk. 71 In

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64 Morgan, Toward a Revised Strategy for Rate Making, U. ILL. L.F. 21, 26 (1978), summarized the usual success of the attempt to recover costs that were higher than anticipated between rate hearings as follows: "To be sure, at the time of the next increase, the firm will be allowed to raise its rate prospectively, but firms are almost never allowed to make up past cost overruns." See also J. BONSBRIGHT, supra note 23, at 53 n.10.

65 65 E.g., Nevada Power Company has recently filed suit in state court charging that the regulatory commission’s denial of its rate application was “capricious, arbitrary and in violation of the law.” Finance, ELECTRICAL WORLD, April 1, 1979, at 9.

66 A. PRIEST, supra note 10, at 79-80, notes that when expenses occur after the cutoff date for the test period for determining rates, commissions and courts frequently refuse to adjust operating incomes to reflect the increased expenses.

67 Tenneco Oil Co. v. Federal Energy Regulatory Comm’n, 571 F.2d 834, 847 (5th Cir. 1978).

68 E.g., Houston Lighting and Power Co. (H. & P) filed an application for a rate increase in 1975. By the time the requested increase was granted, it was insufficient to prevent a sizable revenue deficiency. Reply of H & P to General Counsel’s Request for Information, Application of Community Public Service Company for Rate Increase, No. 177 (filed Feb. 12, 1975).


[T]he regulatory authorities often are tainted with deep feelings as to what the cost of capital ought to be, and resist the notion that the real market cost of capital may exceed their idea of what ought to prevail. The net effect of this is that investors quite reasonably fear that the regulatory system will be laggard in adjusting service rates to cover the cost of capital, which leads to the paradoxical situation that by stingy allowance for cost of capital, the regulatory system can create ultimately a higher cost of capital than would otherwise prevail.

71 Jones, supra note 49, at 20, does not identify the risk as inflation/regulation, but he does blame increased capital costs on essentially the same factors as those that comprise the inflation/regulation risk.
an attempt to quantify the higher cost of capital to a regulated industry, one financial expert estimates that "a utility stock would need to earn about three percentage points more per dollar of equity than its [nonregulated] industrial counterpart."\(^{72}\)

Increased capital costs for a utility can be reflected in a variety of ways. The most discernible is when the commission permits a higher rate of return on the equity investment. A commission may tacitly recognize the inflation/regulation risk and allow a higher rate of return to compensate for it.\(^{73}\) A scattered sampling of recent increases in utility returns that permit equity rates of return of 14.2-14.6\(^{\%}\),\(^{74}\) 14.5-16\(^{\%}\),\(^{75}\) and 17.73\(^{\%}\),\(^{76}\) suggests that some commissions are sensitive to increased risk costs and are allowing for them with adjustments in the rate of return.\(^{77}\) The commission can justify its position simply by stating that capital costs are rising, and that to attract capital, a higher rate of return will be allowed.\(^{78}\) This means that higher capital costs of regulated industries will reflect the higher corresponding risks of Bluefield-Hope.

Regulatory commissions may adjust other ratemaking variants,\(^{79}\) such as the rate base on which the return is computed, to allow for the inflation/regulation risk.\(^{80}\) This is an alternate way to provide an increased rate of return on equity investment.\(^{81}\)

A major difficulty inheres in adjusting the rate of return to reflect the inflation/regulation risk. Each increment in rate of return or other adjustment is based on an estimate of the general level of inflation and how inflation will affect a particular utility. Different price level shifts for different utility purchases, changes in the products used because of technological innovation, and regional price variations are just a few of the factors that make it difficult to ascertain how anticipated, but unknown, inflation will affect a particular com-

\(^{72}\) Christy & Christy, supra note 46, at 29. Christy and Christy have included additional regulatory risks in their estimation and have not limited it simply to the inflation/regulation risk. Id. Harriss, supra note 57, at 21, notes: "Suppliers of funds should be in a good position to bargain for coverage for expected inflation (plus risk due to regulatory lag). How much—one or 2 or 6 per cent a year? I do not know."

\(^{73}\) Carver, supra note 6, at 681.


\(^{76}\) 571 F.2d at 844, 847.


\(^{78}\) E.g., 571 F.2d at 844, 847.

\(^{79}\) E.g., Jones, supra note 49, at 18, notes: The latest information I have is at least 25 of our commissions have utilized either the year-end or the projected year rate base in an attempt to compensate for the problem of inflation and to provide greater assurances that the utility in the period in which the rates will be in effect will have an opportunity to earn the rate of return allowed. Also, many commissions, for like reasons, have included in the original cost rate base, plant held for future use and plant acquisition adjustment. See note 3 supra and accompanying text for listings of still other commission responses to attempt to compensate for the risks associated with inflation.

\(^{80}\) J. BONBRIGHT, supra note 23, at 266-76, agrees that the effects of inflation can be offset by using an original cost rate base and adjusting the rate of return. Webb, The 1975 Texas Public Utility Regulatory Act: Resolution or Reaffirmation?, 13 HOUS. L. REV. 1, 21 (1975), argues that "[a]s a practical matter, this is impossible since the percentage return would have had to exceed four times the current cost of money on a 1940 equity investment simply to offset the effect of inflation since that time." Webb may be entirely correct about the political feasibility of the necessary rate increases needed to offset all the effects of inflation, but the point here is that commissions lately have at least come to recognize that inflation/regulation risk forces the utility to pay more for its capital, and they are beginning to adjust equity returns accordingly.

\(^{81}\) E.g., West, supra note 48, at 26.
company. Because the degree and effect of the inflation/regulation risk are difficult to estimate, the cost of capital is high enough to compensate for the uncertainty. With typical regulatory compensation devices, a utility pays for two risks to attract capital: the inflation/regulation risk that future rate prices will not compensate for changes in production cost, and the risk that estimates of the effects of inflation on a particular company are unreliable. A consequence of the inflation/regulation risk is that the additional risk that the inflation estimate is erroneous must also be compensated for with increased capital costs.

Claiming to protect consumer interests, some commissions refuse to permit increases in the rate of return to reflect the inflation/regulation risk. Such commissions save the consumer nothing. They may declare a lower than competitive rate of return, but they cannot alter the fact that the utility must still attract capital on the open market in order to continue to provide efficient service. The market, not the commission, sets the demanded rate of return. When utility dividends decline below the return demanded for their risk, utility stocks decline in price until a new purchaser receives a return on the stock commensurate with the price he paid for it. In a regulated industry this causes a decline in the market value of the stock relative to the book value. When the market value is lower than the book value, sale of additional stock severely dilutes the present investors' percentage ownership of the company. This raises serious questions about the legitimate expectations of the investors and about whether their capital investment has been confiscated by the utility.

From the viewpoint of the utility customer, however, a more serious con-

82 Harriss, supra note 57, at 18. Harriss cautions against "oversimplification" in estimating the effect of inflation on a regulated industry.
83 Gies, supra note 51, at 188-89.
Delano and Howard point out that it is the uncertainty of regulatory treatment even more than consistently poor treatment that raises a utility's capital costs. They suggest that uncertainty is the key risk factor that will cause increased capital costs. Delano & Howard, Regulatory Risk and Public Utilities, in Risk and Regulated Firms 94, 96-97 (R. Howard ed. 1973).
85 Some observers describe the noneconomic factors that control rate determinations:
86 Utilities with expanding service demands, such as telephone, electric or interstate gas transmission companies, are acutely aware of the necessity to attract capital. Utilities facing static demand, such as gas distributors or water transmission companies in built-up areas, are not so severely affected by an inability to attract future capital.
87 As the New Mexico Public Service Commission put it: "The cost or rate of return a public utility must pay or be able to pay in order to obtain common equity funds from the private capital markets is set for the company by the market, not by this commission or the company." 8 P.U.R.4th at 126.
89 Id. This is a persistent problem. In 1979, 60% of utility stock was selling below book value. Hildreth, supra note 15, at 31.
Burkhardt and Viren, supra note 88, at 27-35, predict anticipated book values by examining, among other factors, the firms' payout rates. The prediction is remarkably accurate. Id. at 31, Table 1.
90 E.g., J. Bonbright, supra note 23, at 158; Christy & Christy, supra note 46, at 28-29; Jones, supra note 49, at 19-20.
sequence is the effect this change in the ratio of market value to book value has on future investors. Current capital costs will reflect the perceptions of new investors of the risk associated with potential future dilution.91 Some financial observers report that at some point there cannot be a decline in market price sufficient to pay for that risk, and that future investors simply will not purchase a regulated industry's stock that sells for fifty percent or less of its book value.92 In short, as the utility attempts to attract capital with a lower than competitive rate of return, the market value of its stock will decline. Future capital costs will thus reflect not only the inflation/regulation risk, but also the risk of continued equity dilution.93 If this condition persists, the utility will be unable to attract additional capital.94 At that point the utility will either be tax supported or it will no longer have the capital to continue efficient operation. Either way the consumer pays. Higher taxes to support utilities will cost consumers money and will finance utility service in a way that discourages resource conservation.95 Some observers suggest that to permit severe degradation in service would be the greatest disservice a regulatory commission could do to a customer.96

A similar effect can be observed in capital financing through issuance of new debt (bonds). Financial observers point out that the increasing “interest rate that a utility pays for funds depends not only on general economic conditions, but also on the financial soundness of the utility itself.”97 A regulatory commission may decide not to raise rates to levels that would reflect increased costs and the inflation/regulation risk. As inflation forces production costs up, the costs will be met from the operating income. There will thus be less operating income available to assure protection for the debt,98 and the utility's bonds will then receive a lower rating.99 Lower rated bonds cost more to raise capital.100 The downgrading in utility bonds, and the corresponding increase in

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92 White, Financing Electric Utility Investment Requirements, Pub. Util. Fort., Jan. 18, 1979, at 27, 29, describes the effect of continued dilution:

In fact, unless there can be a sufficient increase in the return on common equity to compensate for the dilution in book value resulting from marketing new issue stock below book, there will be a permanent reduction in the earnings and dividend growth potential of all common stock. There is a point (reached at 50 to 70 per cent of book value) where selling 5 to 10 per cent additional common stock each year actually leads to declining earnings per share, absent sufficiently offsetting increases in new income. And there is of course a very real point—perhaps below 50 per cent of book value—where additional common stock simply cannot be sold.

93 8 F.U.R.4TH AT 128-30; EdISON ELECTRIC INSTITUTE, supra note 30, at 295.
94 See note 93 supra.
95 To the extent that production costs are borne by taxpayers, each utility customer has less incentive to conserve. The costs are “externalized”; that is, the cost to an individual consumer of using an increment of service is less than the cost of producing it. The cost of using more will be borne partly by other customers, so there is a sharply diminished incentive to conserve the resource. The principle of externalized costs is discussed generally in A. ALCHAIN & W. ALLEN, EXCHANGE AND PRODUCTION: COMPETITION, COORDINATION, AND CONTROL 14-15 (2d ed. 1977). Also see generally Hanke, Backward or Forward-Looking Utility Rates, Pub. Util. Fort., Aug. 17, 1978, at 41.
96 E.g., Jones, supra note 49, at 19. Robinson, supra note 70, at 31, indicates if capital costs are not met with increased rates of return to reflect inflationary pressures, consumers will pay for the increased production costs by suffering declining service.
97 Hyman & Grigoli, supra note 14, at 26.
98 See the coverage ratios and their effect on the cost of debt in Credit Standing, supra note 14, at 27, Table 3.
99 Id.
100 Id.
the cost of utility debt in the past few years, have been spectacular.\textsuperscript{101} Some utilities have already been "cut out of the market for new funds."\textsuperscript{102} Bond-rating experts, such as those from Standard and Poor's, are quite frank in explaining that one of the three major criteria they consider in rating a bond issue is the regulatory treatment the utility has received and can anticipate from the regulatory commission.\textsuperscript{103}

The point is a simple one: there is no way to obtain capital financing for a utility at less than the market valuation of the corresponding risk.\textsuperscript{104} Regulated industries not only face risks similar to those faced by other industrials;\textsuperscript{105} they also confront risk associated with nonresponsive pricing.\textsuperscript{106} Regulatory commissions traditionally respond either by paying the investor a premium for the risk or by ignoring the increased risk and letting the capital market adjust the stock and bond prices to reflect the risk. In either event, the utility customer ultimately bears the increased capital costs associated with the inflation/regulation risk or faces declining service because no capital will be available for modernization and new construction. Moreover, the traditional regulatory compensation devices of paying higher dividends and interest or of letting the market adjust stock and bond prices cause a utility to pay for the additional risks that the inflation estimate may be uncertain, that future dilution may occur or that, at some point, the utility may be unable to attract more capital.

There is an alternative approach that commissions may use: instead of having the utility pay for the inflation/regulation risk, they may eliminate the

\textsuperscript{101} E.g., this comment from Cavanaugh, \textit{supra} note 28, at 37, demonstrates the decline in bond ratings: "However, as the effects of inflation were felt on capital goods, fuel, operating expenses, and financing costs, most electric and gas utilities suffered reductions in their credit ratings, leaving only one triple-A rated electric system in the country today (Texas Utilities) and many fewer double-As." Between 1970 and 1975, Standard and Poor's rating service downgraded some 75 electric utility issues. Fredman & Sharma, \textit{supra} note 49, at 25. From 1975 through 1978 the percent of utilities with bond ratings of AA or better declined from 65% to 45%. \textit{Id.} The decline in the investment status of electric utility bonds, for example, is evident in 1979. Seligman & Rose, \textit{The Decline in Ratings of Electric Public Utility Companies}, \textit{Pub. Util. Fort.}, May 10, 1979, at 39, 41.

\textsuperscript{102} Fredman & Sharma, \textit{supra} note 49, at 25.

\textsuperscript{103} Fendrich, \textit{Utility Rating Criteria, Financial Outlook, and Observations on Regulation}, \textit{Pub. Util. Fort.}, Jan. 4, 1979, at 32. Fendrich listed the three criteria as (1) business position of the utility, (2) regulatory treatment, and (3) management. Fendrich, Vice President, Corporate Ratings, Standard & Poor's Corporation, describes the situation in bond ratings:

Regulation, of course, has a responsibility to respond to a utility's situation because the public interest demands it; and how regulation has responded in the past, how it sees its responsibilities today, and how it is likely to respond in the future are directly related to the relative level of credit quality.

\textit{Id.}

\textsuperscript{104} Seligson, \textit{supra} note 74, at 17, summarizes the point this way:

A regulatory commission which is concerned with the provision of utility service cannot compel anyone to provide the required capital, but can institute a regulatory climate which will cause those who control such investments to think favorably about making investments in that climate. The problem of regulation is to achieve the correct balance both to assure that capital will be made available and that it will be available at reasonable cost.

\textit{See also} note 88 \textit{supra}.

\textsuperscript{105} In fact, a utility's other risks may be lower than a private company's. If so, when the inflation/regulation risk factor is eliminated, then capital costs to a utility will reflect lower costs. \textit{See}, e.g., J. Bauer, \textit{Updating Public Utility Regulation} 107-14 (1966).

\textsuperscript{106} Christy and Christy, \textit{supra} note 46, at 29, summarize the position of the utilities: "In the present inflationary setting, a comparison of specific types of risk tells us utilities must have far greater overall risk than industrials" (emphasis in original). Christy and Christy list several inflation-related risk factors; key among them are price regulation and regulatory lag. \textit{Id.}
risk by adopting automatic cost adjustment clauses. By reflecting production cost changes in utility rates on a dollar-for-dollar basis as they are incurred, automatic cost adjustment clauses end the risk that utility prices will not reflect the full costs of production. Assuming temporarily that all other costs are held constant, the adoption of an automatic cost adjustment clause does not raise consumer costs over the long run. The customer pays the actual cost incurred and pays relatively less for capital that no longer bears the risk that regulatory pricing will not reflect full costs. Assuming that the market responds with some accuracy to the risks of capital, the customer is in the same relative position whether he pays for production costs through cost of service adjustment clauses or he pays through reduced service or the increased capital costs that result from inflation/regulation risk. Either way the customer eventually pays production costs.

Total customer costs may not, however, be the same when production cost increases are borne through increased capital costs rather than cost pass-through. The typical methods of compensating for inflation/regulation risk create additional risks. Increased capital costs also compensate for these risks. With cost adjustment the high risk that a commission may incorrectly estimate the impact of inflation no longer exists because the cost adjustment clause simply reimburses the utility for the actual costs it incurs. The risk that a commission will not make up the cost increases in a timely fashion and will thus cause the utility to lose the time value of the money is also eliminated. Because price increases will be covered in adjusted rates, earnings will not be eroded and bond ratings should improve. Because a lower rate of return will be acceptable for a lower risk, market prices of stocks that pay lower rates of return should not decline relative to their book value. This will reduce the risk of dilution and help insure that utilities will be able to attract capital in the future. When the New Mexico Public Service Commission adopted a type of cost adjustment plan, it concluded that it could restore the financial integrity of the utility by reimbursing operating costs that were higher than anticipated because of inflation.

If, as pointed out earlier, the cost of capital was comparatively low to a public utility when and because it enjoyed earnings stability and reliability, it follows

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107 In the strictest sense of the word, the risk has not been eliminated, it has been shifted. The inflation/regulation risk borne by investors has been replaced by a risk borne by consumers that production costs will fall or rise. Myers, On Public Utility Regulation Under Uncertainty, in RISK AND REGULATED FIRMS 32, 38 (R. Howard ed. 1973), argues that investors rather than consumers should bear risks. But Myers recognizes that investors must be paid more for the risk they bear. Id. Although Myers's thesis that investors, whom he dubs risk specialists, should bear risks is inapplicable when the allocation increases total customer costs, as explained in notes 110-12 infra and accompanying text, or when other economic distortions result.

108 The term "automatic cost adjustment clause" as used here refers only to adjustments for charges in otherwise reimbursable operating costs. Changes in capital costs are the anticipated result of the adoption of such automatic cost adjustment clauses, and are not included in the adjustment.

109 The possibilities that other costs may rise or fall if automatic cost adjustment clauses are adopted is discussed in subsequent paragraphs. Here the focus is simply on risk changes and the effect on capital costs.

110 J. VAN HORN, supra note 84, at 220-21; Sharpe, supra note 84, at 6; see J. WESTON & E. BRIGHAM, supra note 44, at 283-86.

111 There may be a lag of a month or two while accounting adjustments are made for the cost changes, but compared to a one-year or five-year lag the effect is de minimis.

112 The correlation between the change in interest coverage (income available to meet expenses) and the cost of debt is evident in Table 3, Hyman & Grigoli, supra note 14, at 27. See also note 113 infra and accompanying text.
that, if risk is again reduced by restoration of earnings stability and reliability, the cost of capital should again be comparatively lower.113

It is inescapable that the customer will pay the cost of producing the service, either by paying the costs as they are incurred with automatic adjustment clauses or by paying them in the future with increased capital costs, declining service, or both. The automatic adjustment clauses do not increase total consumer costs. By eliminating the additional risks associated with typical regulatory compensation, such clauses may, in fact, reduce total customer costs.

IV. The Regulatory Lag Fallacy

In traditional regulatory procedures, setting rates based on past costs and letting time elapse between rate hearings produces what is known as regulatory lag. Although adopting automatic cost adjustment clauses could provide savings in capital or other costs, some commentators argue that regulatory lag provides incentives for efficiency and should be preserved.114 The efficiency incentive argument, briefly, is as follows: At a full hearing, the commission sets rates based on current cost and technological estimates.115 Between that rate hearing and the subsequent one, fixed rates will cause the utility to attempt to lower costs so that it can capture higher profits. If costs increase in the interim, the utility has an incentive to scrutinize costs more closely to prevent further increase and erosion of the rate of return.

The notion that utilities will respond to regulatory lag as an incentive to cut costs rests on three unspoken premises: that costs actually can be cut by increased efficiency without degrading service standards, that inflation will cause production costs to rise, and that the total possible cost cuts will approximate increases in costs due to inflation over the lag period. Although there is little empirical evidence to support the assertion,116 it is undoubtedly true that often in the cost estimates presented by a utility in a rate hearing there is room for reduction. The assumption that the amount of reduction will equal the inflation rate in the interim period is simply without justification. Production costs have risen, but at erratic and unpredictable rates.117 The inflation rate may dramatically overstate or understate the costs that can be saved if the utility were more efficient. There is no functional relationship between the amount which costs may be driven up by inflation and the amount they may be reduced by increased efficiency. A genuine efficiency incentive program must function independently of the effects of inflation. An inefficient company should not profit simply because inescapable costs decline, any more than an efficient company should suffer simply because inescapable costs rise faster than the company's high rate of efficiency.118 Of course, given precisely the same

113 8 P.U.R.4th at 131.
114 E.g., J. Bonbright, supra note 23, at 53.
115 Traditionally a rate is based on historic costs. The effects of regulatory lag are somewhat ameliorated when utilities decide instead to use future cost estimates to determine reimbursable costs.
116 See notes 132-34 infra and accompanying text.
117 See generally Hyman & Grigoli, supra note 14, at 25.
118 Latimer, supra note 53, at 21, argues that the effects of inflation and the results of increased produc-
economic conditions, an efficient company is going to fare comparatively better than an inefficient company. The difficulty is that success relative to other utilities caught in the inflation squeeze is not what boosts returns. Each utility is concerned with its own financial success. The major factor that will determine a utility's financial success will be the degree of inflation during the lag period. As an efficiency incentive, regulatory lag functions poorly because neither the rewards nor the punishments that flow from it bear a direct relationship to the company's efficiency.

Regulatory lag simply operates as a squeeze on the utility. The need for the squeeze, the degree of squeeze, and when the squeeze should be applied are not issues that commissions consider when they permit regulatory lag. Interestingly, as a utility becomes more efficient, it has more to fear from regulatory lag. An inefficient utility has many cost reductions available to offset inflation during the interim. It may choose to implement few or several. By contrast, an efficient producer has few cost cuts yet to be made. High inflation during a regulatory lag period may impair the efficient producer's financial integrity. Regulatory lag is at best an "inadvertent," "crude," and "clumsy" tool to promote utility efficiency.

Bauer argues that one of two situations will always be present: either regulatory lag will cause a company to earn less than the returns that the rate case had determined were fair, or it will earn monopoly profits in excess of the rates deemed fair by the commission. The first condition will ensue whenever costs rise faster than a utility's innovation can keep pace, and the second will occur whenever costs decline or whenever costs rise less than the utility's innovation. In either event, Bauer argues, the utility's rate of return will differ from what was determined to be the fair rate of return. More to the point, the utility's rate of return under either condition will be only partially affected by the utility's efficiency. Factors well outside the utility's control, such as fuel or construction costs, are likely to have a far more profound effect on its rate of return during the period of regulatory lag. Moreover, because regulatory lag keeps utility revenues constant there is the risk that a utility's unavoidable expenses may become so out of line with the revenue received that the utility faces economic ruin. For example, in 1974, a failure to allow automatic rate adjustment "might have wiped out the net income of several large utilities, reduced their earned surplus, and in some cases might have absorbed the entire net cash flow from operations, so that even if no dividends were paid, no cash would have been available for interest payments."

Regulatory lag causes other difficulties that may ultimately increase

\[ \text{tivity should be clearly separated in an efficiency incentive plan. He discusses such a plan that combines cost adjustment with efficiency incentive. Id. at 21-24.} \]

There are incentive plans currently in use that tie a utility's rate of return to service efficiency. Commissions have developed service criteria to separate efficient from inefficient utilities and to reward the utilities accordingly. In re The Narragansett Elec. Co., 23 P.U.R.4th 516 (R.I. P.U.C. 1978).

120 J. Bonbright, supra note 23, at 54.
121 Morgan, supra note 64, at 26.
123 Id.
124 Morgan, supra note 64, at 45.
customer costs. Hughes indicates that a utility may have the capacity to provide an improved service (in his example, underground transmission lines), but "general customer resistance to rate changes that permit utilities to charge undergrounding costs directly to the affected customers" will make the utility reluctant to proceed.\textsuperscript{125} Hughes says that utilities fear "increasing the rate base at an uncontrolled pace and getting squeezed by regulatory lag."\textsuperscript{126} This illustrates the disincentive to efficient performance that regulatory lag causes. When a superior service can be offered for low cost, the utility, squeezed by regulatory lag, can only focus on the increased cost and has a strong disincentive to offer the new service. Service increases will be proposed only at rate hearings. At a rate hearing a utility's primary concern is to argue for other rate increments related to rising costs. The utility may demonstrate little interest in pursuing the new service for fear that it will not be politically possible to get a rate increase sufficient to cover both increased costs generally and increased costs for the new service.\textsuperscript{127} It is the customer who does not get a new service for which he would be willing to pay who ultimately suffers.

Another likely result of regulatory lag in ratemaking is distortion in the efficient functioning of a utility. A utility is as aware of the future it faces with regulatory lag as is a commission. The following hypothetical may illustrate: Knowing that a rate hearing is due, say, every five years, a utility in the fourth year after a hearing discovers a technological innovation that will sharply reduce utility costs. If the utility implements it in the fourth year, it will enjoy one year of increased profits before the new rate hearing, and a new rate will be imposed based on cost estimates which include the innovation. When regulatory lag is the only efficiency incentive, the benefit to the utility from the innovation disappears at the subsequent rate hearing. If, however, the utility does not employ the innovation immediately, the rate hearing will establish rates based on higher costs. The utility may then implement the innovation in the first year after the new hearing. The utility will then receive the benefit of an increased rate of return for five years, and the customer will have paid increased costs for six. The heart of an efficiency plan is in permitting the company to retain some portion of the benefits of its own efficiency. If the utility is unable to retain some of the benefit generated by efficiency innovations, it will suffer from the so-called "paradox" of regulation that permits the least efficient and the most efficient firms to receive the same return on equity.\textsuperscript{128} The difficulty with regulatory lag is that it provides an incentive to delay introduction of innovations until immediately after rate hearings.\textsuperscript{129} Both the consumer and the utility lose during those delays.

\textsuperscript{125} Hughes, Comment, in Performance Under Regulation 73, 83 (H. Trebing ed. 1968).
\textsuperscript{126} Id.
\textsuperscript{127} Wein, Fair Rate of Return and Incentives, in Performance Under Regulation 39, 61 (H. Trebing ed. 1968), notes that rates are not just determined by the cost of service, but that they are "judicial and political" in nature. This suggests that a utility may only be able to receive a limited rate increase regardless of the economic factors involved. See also notes 80, 87 supra.
\textsuperscript{128} Without having the utility retain some of the benefits generated by efficiency, the regulated industries suffer from the so-called "paradox" of regulation that permits the least efficient and the most efficient firms to receive the same return on equity. I. Bussing, Public Utility Regulation and the So-Called Sliding Scale 11 (1936).
\textsuperscript{129} The effect is described as "bunching" the introduction of innovations immediately after rate hearings.
Massell describes a similar, more pervasive disincentive effect of regulatory lag.\textsuperscript{130} He indicates that the process of rate regulation, anticipated and feared by the utilities, induces "the enterprise to hold back the innovations as a 'hidden reserve' to protect itself against future rate reductions or economic depressions."\textsuperscript{131} Although Massell illustrated his principle with rate regulation generally, the premise is that even unconsciously a utility may build in a "hidden reserve" of innovation to protect itself against future cost increases that it will need to be able to offset. Recent economic adversity has probably depleted any innovation reserve public utilities may have stored, but the potential for encouraging them with regulatory lag schemes is always present.

Using regulatory lag as an efficiency incentive may be based on another faulty premise. It assumes, in part, that the utility could save costs simply by shopping more or bargaining harder.\textsuperscript{132} Both industry observers\textsuperscript{133} and some recent empirical data\textsuperscript{134} suggest that this simply is not true. With or without cost pass-through clauses, utilities are bargaining to keep costs low.\textsuperscript{135} Bonbright\textsuperscript{136} and Wein\textsuperscript{137} suggest instead that any current inefficiency in regulated industries stems not from incurring unnecessarily high costs, but rather from failure to develop technological innovations that will reduce utility costs. Such innovations can come only from research and development programs. When a utility faces capital erosion because of unavoidably rising costs, one place where cuts can be made while maintaining the service demanded by the commission is in the research and development program. Any incentive program needs to monitor research and development expenditures, of course, but the way they are monitored through regulatory lag is by cutting them if other costs have gotten too high and by not cutting them if other costs have been controlled. There is nothing in regulatory lag that encourages making long-term, efficiency decisions about research and development expenditures. If Bonbright and Wein are right that this is the area in which utilities are most inefficient, then regulatory lag exacerbates rather than corrects for this inefficiency.

Finally, the most costly effect of regulatory lag is that by masquerading as an efficiency incentive, it deflects attention from true efficiency incentives which are innovative, well considered, and well planned.\textsuperscript{138} Several efficiency incentive proposals have been developed in recent years. Each provides a systematic review of what the increased incentive is supposed to achieve and

\textsuperscript{131} Id.
\textsuperscript{132} Opportunities for profiteering with automatic cost adjustment clauses, such as falsifying sales between subsidiaries and parent corporations, are already scrutinized by the commissions and by mandate of federal law. A. Priest, \textit{supra} note 10, at 89-90.
\textsuperscript{133} Edison Electric Institute, \textit{supra} note 30, at 326-27, cites the Ohio study indicating that fuel adjustment clauses tend to promote utility price efficiency.
\textsuperscript{134} The Federal Power Commission has attempted to audit utilities to determine whether automatic adjustment clauses currently in use have resulted in a decline in the utility's attempts to purchase at the least possible cost. The Commission found no evidence that utility practices failed to protect consumer interests. \textit{Fuel Clause Adjustment Impact Studied}, Pub. Util. Fort., Jan. 19, 1978, at 25. There has been some suggestion that the Commission's study may not have been adequate. Morgan, \textit{supra} note 64, at 46.
\textsuperscript{135} See J. Bonbright, \textit{supra} note 23, at 262-63.
\textsuperscript{136} Id.
\textsuperscript{137} Wein, \textit{supra} note 127, at 58.
\textsuperscript{138} Posner, \textit{supra} note 119, at 37, is one of many critics who "doubt the importance" of regulatory lag as an effective efficiency incentive.
how it operates without creating other regulatory distortions. Commentators have developed several suggestions for evaluating incentive programs.\textsuperscript{139} It is beyond the scope of this article to endorse a specific incentive proposal, but the automatic cost adjustment clause is championed here in the full recognition that an “inadvertent” incentive scheme will disappear and that a commission should, when considering readjusting rates to reflect automatic cost adjustment, also search for a viable efficiency incentive program. Regulatory lag is, at best, a profit-squeezing device unrelated to real efficiency potential.\textsuperscript{140} It causes distortions in the introduction of incentives and real disincentive for providing some types of efficiency. That regulatory lag continues to protect consumer interests and is the best available means of providing efficiency incentive is demonstrably a fallacy.

V. The Automatic Cost of Service Adjustment Clause

A. Changes in the Rate Hearing

When automatic cost adjustment clauses are approved, the frequency, and resulting cost, of rate hearings is likely to decline. In 1964, Priest described rate hearings as “infrequent events.”\textsuperscript{141} By 1977, Jones described rate hearings as “almost continuous” affairs.\textsuperscript{142} The frequency of hearings has increased so dramatically that some observers accuse commissions of permitting “pancaking,” that is, granting temporary rate increases while the utility applies for successive rate increases, each built on the one immediately preceding.\textsuperscript{143}

The frequency of rate hearings has been on the rise primarily because utilities need to offset the effects of regulatory lag and to decrease the inflation/regulation risk.\textsuperscript{144} Under traditional regulatory procedures, a utility faced

\textsuperscript{139} E.g., J. Bonbright, supra note 23, at 262-65; Baumol, supra note 21, at 108-15.

\textsuperscript{140} Some commentators recognize the need for automatic cost adjustment clauses, but in an attempt to keep the “best of both worlds,” they recommend only partial cost pass-through to retain some of the efficiency incentive. The Federal Power Commission disagrees with the notion that such a mixed plan is better: It should be noted that to the extent that only a portion of charges in fuel costs are permitted to be reflected in rates, the purpose of the fuel clause (namely to pass on to customers the increases or decreases in the fuel costs actually incurred by the utility) is to that extent defeated. When fuel costs are rising the utility is disadvantaged by not being able to collect the full amount of the increase; when fuel costs are falling the customers are disadvantaged because the full amount of the reductions are not passed along, but are partly retained by the utility. In addition, the lag in collections for fuel expenses inherent in a typical fuel cost adjustment clause provides some incentive for companies to bargain for favorable prices during periods of rising fuel costs.

\textsuperscript{141} A. Priest, supra note 10, at 61.

\textsuperscript{142} Jones, supra note 49, at 18.

\textsuperscript{143} Finance Utilities Accused of “Pancaking” Rates, ELECTRICAL WORLD, Apr. 1, 1979, at 9. Federal Energy Regulatory Commission Chairman Charles Curtis considers pancaking serious enough to suggest that Congress amend the Federal Power Act to impose a one-year limit on rate-case decisions or to change FERC’s regulatory process to narrow the scope of issues subject to litigation. Id. His suggestions may become law, but they do not address the cause for the frequent rate hearings. Only eliminating the effects of regulatory lag will reduce the need for frequent rate hearings.

\textsuperscript{144} See, e.g., Jones, supra note 49, at 17-18.
with inescapable, rising costs can obtain relief only from a rate hearing. The faster costs rise, the sooner a utility will apply for a rate reevaluation. Rate hearings are enormously expensive, and utilities ultimately charge rate case expenses to the consumer as reimbursable expenses. Carver asserts that commissions have been “candid” in permitting higher rates of return than otherwise might have been allowed simply to extend the time period between rate cases. Obviously, either frequent rate hearings or higher than expected rate increases to stave off hearings are expensive for the customer. By taking utilities out of the rising costs/fixed price cast of traditional ratemaking, automatic cost adjustment plans will eliminate the need for frequent rate hearings. Thus, the cost the consumer will bear for frequent hearings is likely to decline.

For a large utility, automatic cost adjustment may amount to a substantial savings to the customer. For a small utility, it may make the difference in whether the utility continues independent operation or merges with a larger utility. Many small utilities operate efficiently throughout the country; however, as the need for frequent rate hearings drives administrative and legal costs of utilities up, many utilities are caught in a squeeze. Rising costs make the utility’s continued operation impossible without resetting rates, but the cost of a rate hearing may well be more than the utility will gain at the hearing. The transaction costs associated with regulatory lag and the inflation/regulation risk may cause many small utility companies to cease independent operation.

Rate hearings and appeals are lengthy affairs. Much hearing time is now spent reviewing the financial difficulties that have faced utilities as a result of the inflation/regulation risk. If automatic cost adjustment clauses were adopted, utilities could focus on how costs and revenues should be determined. Once a framework that would determine cost eligibility for automatic adjustment has been established, costs themselves could be monitored by bookkeepers and accountants. The commission could make spot checks on the utility’s implementation of cost pass-through, but the utility would be free “to consider in detail management’s long range construction, production and financing programs.”

145 Sam Hunter, Director of Rates and Economic Research for Southwestern Public Service Company in El Paso, estimates that a rate hearing usually costs a utility a quarter to a half million dollars. Letter from Sam R. Hunter to Elizabeth Warren (Sept. 21, 1979) (on file in The Notre Dame Lawyer office). Uthus & McIntire, Public Utility Rate Regulation and the Iowa Administrative Procedure Act—Extending Maximum Procedural Protection to Public Utilities at Public Expense, 26 Drake L. Rev. 483, 491 (1976-77), estimates that just the cost of a single appeal from a rate hearing in Iowa is $140,000.00.

146 A. Priest, supra note 10, at 67-69; Uthus & McIntire, supra note 145, at 486-87, 491-92.

147 Carver, supra note 6, at 681.


149 This was the conclusion of Thomas Morgan after he conducted a study for the Administrative Conference of the United States on the current delays in regulatory procedures. Morgan, supra note 64, at 76. Morgan indicates commission decision times of one to three years are average. Id. at 26. The Edison Electric Institute illustrates a typical sequence for filing and implementing a rate. The regulatory lag in the illustration is two years. Edison Electric Institute, supra note 30, at 291.

150 Although Morgan suggests different, more-comprehensive administrative reforms in ratemaking procedures, he concluded that the goal of reform should be to give the commissions more time to study how costs and revenues should be determined. Morgan, supra note 64, at 76.

151 Edison Electric Institute, supra note 30, at 43, indicates that this would be a chief benefit of any plan to streamline utility ratemaking procedures.
mendations for streamlining the regulatory hearing process, "[r]ulemaking is costly and time-consuming but when used as a mechanism for focusing data on relevant issues and simplifying the ultimate decision process through settlement, its potential can be maximized." Moreover, as commissions are freed from constant rate hearings centering on inflation-caused price changes, they can concentrate on the efficiency incentives that are currently lacking in regulatory schemes. Freeing the regulatory commission and the rate hearing process to focus on the conceptual framework for regulatory control may ultimately be the biggest boon of automatic cost adjustment clauses.

B. Efficient Use of Scarce Resources

Bonbright explains that a major function of utility service pricing is to set the rate to promote efficient resource rationing. Utility prices that reflect current, actual costs permit the consumer to decide whether his use of the product is worth, to him, the full cost of producing it. William W. Lindsay, now Associate Chief of Economics at the Federal Power Commission, summarized the pricing considerations in the electric industry:

[T]he amount of electricity taken is affected by the price charged. Since the amount of resources allocated to the production and distribution of electricity depends on the demand for the service and the latter depends on the level and structure of rates, resources will be misallocated to the extent that rates fail to reflect costs. In this sense, among others, prices which do not reflect costs are not in the public interest.

By reflecting increased production costs through future increases in capital costs, traditional pricing mechanisms distort the resource allocation function of prices. Service prices that are temporarily low may encourage inefficient use when the cost of production is rising rapidly and the utility must wait until the next rate hearing to have that increase reflected in the price. A recent report prepared for the Ohio Electric Utility Institute indicates that "[e]ven temporary underpricing could create an artificial stimulus toward greater energy consumption and increase the capital investment requirement." Service prices that are temporarily high may also discourage efficient use. When capital costs reflect high inflation/regulation risk because of the utility’s earlier financial performance, an artificially high price will also temporarily distort resource allocation. By passing increased costs through to the utility customer

152 Morgan, supra note 64, at 76.
153 J. Bonbright, supra note 23, at 49, lists four functions of price: (1) the capital attraction function, (2) the efficiency-incentive function, (3) the income-distributive function, and (4) the consumer-rationing function.
154 Whether marginal cost pricing or average cost pricing is employed is not essential here; what is essential is the general use of price to assure efficient allocation of resources.
almost immediately, automatic cost adjustment clauses help insure that the most efficient use is made of utilities' services.

C. Savings Pass-Through

In evaluating the automatic cost adjustment clause, one should not consider that only cost increases will be passed through to the customer. The automatic cost adjustment clause operates purely to adjust utility service rates to reflect the actual current costs of production. If some production costs decline, they, too, are passed through immediately.

One particular kind of cost savings that might be passed through regularly to consumers is associated with tax accounting. In keeping with the requirements of the Internal Revenue Code\textsuperscript{157} and treasury regulations,\textsuperscript{158} there are some cost savings that may be passed on to the consumer only after the savings have been incurred. Adjusting rates to reflect anticipated savings is not permitted.\textsuperscript{159} The customer's bill under typical cost adjustment procedures with regulatory lag will not reflect the savings until the next rate hearing. With an automatic cost adjustment plan in force, however, the utility could be required to reflect the savings as it is created monthly.\textsuperscript{160}

Of course, the kinds of savings that can be passed on to the consumer are, at present, less than the cost increments caused by inflation. But the rate of inflation may well change and unanticipated cost reductions may occur. If that day comes, automatic cost adjustment clauses will assure that it is the customer, and not the utility investor, who will benefit from the changed circumstances.

VI. Conclusion

Consumer representatives have roundly criticized automatic cost adjustment clauses.\textsuperscript{161} Such opposition may explain the recent decline in the use of various modified cost adjustment clauses.\textsuperscript{162} Consumer advocates often suggest that such clauses seem only to raise the customer's utility bills.\textsuperscript{163} To focus on

\textsuperscript{157} I.R.C. § 167(1) determines eligibility for accelerated depreciation for regulated industries.
\textsuperscript{158} Treas. Reg. § 1.167(f)(3) explains the accounting procedures for excluding a deferred tax reserve from the rate base and, consequently, eliminating the utility's earnings on that portion of the rate base. This technically qualifies as a reduction in capital cost; it very well might, however, be an appropriate cost to be reflected in an automatic cost adjustment clause. It does not violate the principle of not reflecting in the automatic adjustment the capital costs that will be altered because of the adoption of the clause itself. Instead, this type of capital cost, an automatic rate-base reduction based on a tax savings, is much more like the inescapable costs (or in this case, savings) that automatic cost adjustment clauses are designed to reflect.
\textsuperscript{159} Warren, Tax Accounting in Regulated Industries: Limitations on Rate Base Exclusions, 31 Rutgers L. Rev. 187, 193 (1978).
\textsuperscript{160} For a full discussion of this tax accounting savings and its possible use in passing through utility cost savings, see id.
\textsuperscript{161} For a summary of the criticisms of Senator Lee Metcalf of Montana, the Moss Committee Report, Consumer Reports and such consumer groups as Save Our Cumberland Mountains, Environmental Action Foundation, Toward Utility Rate Normalization (TURN), and East Tennessee Research Corporation, see Carver, supra note 6, at 663-67; Comment, The Fuel Adjustment Clause and Its Role in the Regulatory Process, 47 Miss. L. J. 302, 302-06 (1976).
\textsuperscript{162} See note 8 supra and accompanying text.
\textsuperscript{163} Part of the reason for this may be that bisected billing which separates the "base cost" from the "adjustment cost" draws the consumer's attention to rising prices and focuses blame on the adjustment clause. A single billing system which reflects high capital costs and outdated cost increments in a single number does not alert the consumer to a specific focus for complaints about utility bills.
AUTOMATIC COST ADJUSTMENT CLAUSES

the immediate rise in rates that sometimes accompanies adoption of an adjust-
ment clause is to lose sight of the overall cost of the typical cost adjustment
methods. A utility cannot provide continued service for less than production
costs. Without automatic cost adjustment clauses, the ensuing rate adjustment
will reflect both increased operating costs and increased capital costs. The con-
sumer cannot escape paying the cost of producing the utility service he con-
sumes either directly or indirectly. At best, the consumer can receive the ser-
vice at the least possible cost if production costs or capital costs can be reduced.
By eliminating the inflation/regulation risk, automatic cost adjustment clauses
will not increase consumer costs. They may, in fact, in the long run reduce
them.

Consumer advocates argue that the regulatory lag associated with tradi-
tional cost adjustment methods provides necessary incentive for utility efficien-
cy. As an argument, it is merely an unscrutinized, long-accepted conventional
wisdom. It is based on the fallacious principle that there will be a necessary cor-
relation of possible utility savings with the rate of inflation during the period of
lag. The utility is rewarded whenever costs decline or savings exceed inflation
costs and is punished whenever inflation costs exceed efficiency. The reward to
a utility is not based on the utility’s efficiency, but instead will depend primari-
ly on the amount of inflation in inescapable costs. Moreover, by squeezing un-
controllable costs, such as fossil fuel costs, and controllable costs, such as
research and development costs, together, regulatory lag may promote long-
term production inefficiency. Regulatory lag distorts the introduction of cost-
saving efficiencies and may encourage utilities to build an “efficiency reserve”
that will be held against the possibility of future financial disaster caused by
regulatory lag. Regulatory lag functions neither to reward the efficient nor to
punish the inefficient. Consumers should not rely on it as the primary efficien-
cy incentive.

Some benefits can be anticipated from automatic cost adjustment clauses.
By passing through costs as they are incurred, more efficient allocation of
scarce resources is achieved. Eliminating regulatory lag will end the need for
frequent rate hearings, and will, thus, reduce the administrative costs of
regulation. Cost reductions can be passed through to the consumer
automatically. Adoption of cost adjustment plans will encourage commissions
to consider new efficiency programs. Commissions will have to review utility
costs by generic classification. Consumer advocates recognize that “under-
staffed state commissions, flooded with requests for rate increases, can’t check
the details of these enormously complex transactions.”\textsuperscript{164} Of course, automatic
cost adjustment clauses will not provide increased manpower. But by forcing
commissions to devote rate hearings to fundamental questions of regulation
and to leave administrative implementation to auditors and others trained to
monitor the utilities’ implementation of the commissions’ plans, it focuses the
commissions’ attention where it belongs: on determining rates that will provide
continued, dependable service at the lowest possible cost to the utility
customer.\textsuperscript{165}

\textsuperscript{164} \textit{Fuel Adjustment Coer}, supra note 5, at 837.
\textsuperscript{165} This is the assumed goal of regulatory commissions. See note 11 supra and accompanying text.