

X  
B699  
1988

H-12

# Principles of Public Utility Rates

*Second Edition*

by

JAMES C. BONBRIGHT  
ALBERT L. DANIELSEN  
DAVID R. KAMERSCHEN

*with assistance of*  
JOHN B. LEGLER

LIBRARY  
STEWART, MCKEN & COVERT

Public Utilities Reports, Inc.  
Arlington, Virginia

efficiency factors, restricting the fairness issues to such problems as those concerned with retroactive rules of ratemaking.

Academic economists have gone farthest in this direction, some of them taking the position that issues of fairness are beyond their professional competence and concern. For example, Davidson's (1955, p. 111) monograph on rate discrimination insists that it is concerned solely with economic criteria and not with fairness. And Houthakker (1956, pp. 734-735), reviewing Davidson's book, comments adversely on lawyers "... vainly seeking equity where efficiency should have been the objective." Some welfare economists, associating or identifying arguments about equity with arguments about income-distributive justice, have denied that the issues are subject to rational solution on the ground that they involve a hopeless attempt to make interpersonal comparisons of satisfactions. For contrasting views, see Lerner (1947), Boulding (1952), and Just, Hueth & Schmitz (1982). The most an economist will generally say is that an allocation is "fair" if it is both efficient and equitable (e.g., see Varian, 1984, p. 284). The courts and commissions, which are naturally highly responsive to popular or traditional ideas of equity among the parties to a rate case, have shown a tendency, though a lagging one, to shift their emphasis. Here, the lead was taken by the Supreme Court, which, in the *Hope* case (1944), abandoned its earlier, legalistic test of fair rates in favor of the acceptance of a functional approach.

At the risk of being subject to the parochial prejudices of our profession, we are convinced that the modern tendency to view fairness criteria of reasonable rates as secondary criteria, to be accepted primarily as constraints on the application of the so-called economic criteria, is a mark of progress in the development of ratemaking policies. In other words, the approach to establishing regulated rates is becoming more scientific. But this means merely that fairness issues should be kept in their place. It does not mean that they should be cavalierly dismissed or even belittled. What these issues are, and what part they should play in the development of ratemaking policies, are the questions discussed in this chapter.

## THE BABEL OF CONFUSION AS TO WHAT CONSTITUTES FAIRNESS

### Fairness Equated to Equality

The broad distinction, noted above, between fairness standards and efficiency standards should not be taken to imply the existence of

two alternative measures of reasonable rates, the one derived from considerations of fairness, the other derived from considerations of economic theory and finance theory. On the contrary, people who think in terms of equity or justice are likely to be as hopelessly at odds with one another as they are with people who think in terms of social efficiency. A major part of the disagreement lies in the association of fair treatment of people with equal treatment. But, in the first place, equality in one respect means inequality in others. And, in the second place, a decision on rates designed to put one set of people on a par with another set will often make still others the victims of discrimination.

Consider, for example, the fairness aspect of the question whether, in a period of price inflation, permitted rates of return should be raised in such a way as to give utility common stockholders an offsetting increase in money income. Such an increase would put these stockholders more nearly on a par with the holders of stock in many industrial companies, it is often contended, but it would thereby give them an advantage over the recipients of incomes from investments in savings banks, in U.S. savings bonds, in annuities, and in life insurance; opinions differ as to the fair claims of public utility stockholders. (See Chapter 15).

Consider, again, the fairness of a proposal for uniform rates throughout both urban and rural service areas—a proposal made, let us say, in the face of undeniable evidence that the unit costs of supplying the rural service are very much higher than the unit costs of city service. Here, to be sure, there may be plausible practical grounds for rate uniformity if the costs of the rural service do not bulk too large in the total costs of supplying the whole area. But if the question is argued on grounds of fairness among customers, opinions are likely to be widely divided. As Galbraith has said (1955, p. 300) "In the Puritan ethos there is no such thing as a legitimate subsidy. If one must nevertheless be subsidized, how much more seemly to have it out of sight."

### Fairness Based on Cost Considerations

On the one hand, there is a strong tradition in support of the fairness of rate differentials based on cost differentials. But on the other hand, there is a widely held, conflicting belief in the inherent fairness of a rule of equal prices for services regarded as the same in some superficial sense and despite marked differences in cost of rendition. This popular preference for rate uniformity beyond the limits justified by the advantages of simple rate structures has been repeatedly



noted by economists, most of whom keenly regret its political appeal. Only under special circumstances can the demand for this spurious equality of treatment properly claim whatever merit can be claimed for the ability-to-pay or other social principles discussed in the preceding chapter.

**Capacity Costs.** Of all of the many problems of ratemaking that are bedeviled by unresolved disputes about issues of fairness, the one that deserves first rank for frustration is that concerned with the apportionment among different classes of ratepayers of the demand costs or capacity costs — those costs of service that are regarded as a function of required plant capacity and not of rate of output in kilowatt-hours, cubic feet of gas, message minutes of telecommunications, and so on. Should the capacity costs be assigned to the different ratepayers on the basis of system peak responsibility, of coincidental class demand, or of any one of the other thirty-odd proposed bases of assignment to be found in the literature of rate theory? Here, notions of fair apportionment are almost sure to conflict with economists' convictions as to the relevant cost allocations. But these notions are themselves neither stable nor uniform, although they reveal a general tendency in favor of a fairly wide spreading out of the costs, as butter would be spread over bread in a gourmet's sandwich. Awareness of these unresolved conflicts about fair cost apportionment has led the British Nobel Laureate Professor W. Arthur Lewis (1951, p. 23) to exclaim that, in rate determination, "... equity is the mother of confusion."

### THREE DIFFERENT TYPES OF FAIRNESS STANDARDS

What can be done, if not to resolve the confusion to which Lewis refers, at least to determine its sources and to minimize its frustrating influence on the theory and practice of ratemaking? Perhaps the best way to begin is to ask what "fairness" means when used in the context of a rate case. Just what does a contestant intend to assert, for example, when he or she opposes any rate or rule of ratemaking, not on grounds of difficulty of administration or of ineffectiveness in attracting capital, but simply on the ground that it is unfair? Unless one is ready to accept completely the monolithic cynic's and choice theorist's position that a fair rate means whatever rate is in one's own self-interest, this is no easy question. And the dictionaries are here of little help, since their relevant definitions of fair merely put the reader

into a dizzy merry-go-round of synonyms (equity, justice, unbiased, etc.).

To be sure, we can go a certain distance toward an answer by noting that a finding that rates are fair, as distinct from a finding that they are otherwise socially acceptable, implies a proper and judicious balancing of the relative claims of the interested parties when these parties are viewed, not as mere economic agents or units, but as human beings entitled to respect for their own interests. In the majority of cases, moreover, we are also correct in associating the fairness issue with the income-distributive effect of the rates and not directly with their producer-incentive or consumer-motivation effects. But income-distributive aspects of economic policy are not necessarily viewed in terms of fairness or justice. They may be viewed, e.g., hedonistically, as a problem of securing that income distribution which will maximize total happiness — viewed in this manner by people who purport to take no interest in the question whether actions that they approve, as contributing to maximum happiness, are fair or unfair. Or, in the more modern manner, they may be appraised from the standpoint of overall economic or social effects on community welfare — e.g., from the standpoint of the possible effect of a more nearly equal distribution of income in reducing the macroeconomic severity of business recessions or inflation, or in contributing to the elimination of AIDS. But we are still unimpressed not only as to tests of a fair income-distributive effect, but also even as to the very meaning of the requirement that the effect be fair.

Any attempt to get much further with this mixed problem of semantics, social psychology, folklore, metaphysics, and ethics would go quite beyond the field of economics and even further beyond the scope of a book on public utility rates. But one point is clearly revealed by a mere study of the rate cases: namely, that there are different conceptions or standards of fairness, only loosely related to one another and often in conflict with each other. Among these standards, three types may be distinguished here because of their relevance to the theory and practice of public utility regulation. They may be called, respectively, (1) good-faith standards, (2) income-distributive standards, and (3) notional-equality standards.

#### Good Faith Standards

The meaning of fairness in business transactions is most clearly definable when referring to a moral obligation, to avoid deception, and to live up to previous commitments, expressed or implied. If judged by this test alone, any rule of ratemaking would be fair to



investors, whatever its merits or demerits on other grounds, if it conforms to the terms, on the faith of which the investment was originally made — fair no matter how onerous or how profitable these terms may prove to be in the light of hindsight.

*Meeting the Letter of a Contract.* In the history of American public utility regulation, the most conspicuous example of a line of cases in which this conception of fairness was put to the test (and, incidentally, found wanting) was that presented by the early 5¢ fare franchises granted to the street railways and to the rapid-transit companies. In the halcyon heydays of the street car, operation under these franchises proved highly profitable. But as a result of the rise in prices and wages during and after the First World War, the 5¢ fare first became unprofitable and then ruinous. As might have been expected, the corporate managements made a determined effort to secure relief from these outmoded obligations; and usually the relief was granted, either by the courts whenever they could find the franchise to have been noncontractual in character, or else by obliging state legislatures. In large part, this forgiveness even of contract obligations was justified on the practical ground that the companies could not otherwise continue in service. But there can be little doubt that the action was also influenced by appeals to the injustice of any attempts to enforce the letter of the early franchises.

The 5¢ fare cases are exceptional in the history of American utility regulation. For the contemporary law of commission regulation does not predetermine the rates that a company must continue to charge in future years, nor does it even set up a precise formula by which the fairness of these rates shall be redetermined from year to year. But this very lack of a definite understanding as to the criteria of a fair return, or as to the circumstances under which the company may assert a right to the enjoyment of such a return, has given rise to countless disputes between company representatives and consumer interests as to the implicit understanding or reasonable expectation under which capital was committed to the enterprise.

One such dispute concerns the claim, once frequently advanced by public utility representatives, that a retroactive application of a prudent-investment rule of ratemaking, without compensation for early investments made on the faith of the more generous but much criticized fair-value rule, would be unfair to existing investors. In the 1920s, when the fair-value rule was still held to represent the constitutionally imposed law of the land, this claim was conceded to have weight in principle even by defenders of a prudent-investment rate base. But the argument has now lost much of its force with the lapse of time

and with the adaptation of the stock market to newer philosophies of ratemaking.

*Tyranny of the Status Quo.* Good-faith standards of fairness have been invoked by ratepayers no less than by investors in support of rates that would otherwise be deemed indefensible. The appeal is likely to take the form of an insistence by a particular class of ratepayers on the right to the continued enjoyment of low rates which, while originally justified by cost analyses or otherwise, have subsequently been made obsolete by changed conditions including, particularly, changes in load factors or the appearance of competition. The argument runs to the effect that the ratepayers were induced to locate their factories, or to abandon their isolated generating plants, or to convert their furnaces from coal to gas burners, in contemplation of the low, promotional rates and on the faith that this rate would remain in effect for the indefinite future.

There are certainly valid cost effective planning arguments for having predictable and stable rates. However, as a matter of legal doctrine, the previous argument has dubious standing in view of the generally accepted principle that public utility rates are subject to revision if and when they become unreasonable. Moreover, the economic arguments lie more on the side of predictability than stability — e.g., time-of-use rates are predictable but not stable — especially when the underlying cost and demand conditions change significantly. But in the politics of utility rate regulation, the argument for stable rates is sometimes pressed with enough force to retard, for years, changes in rate structure otherwise clearly desirable.

In electric and gas rate making, commissions have sometimes approved a makeshift solution by permitting old customers to continue service at the old rates, new customers being subject to the higher, revised rates. But this action runs against a rival standard of fairness, the generally accepted principle against economic discrimination. Indeed, one of the strongest practical objections to the pricing of special classes of service, is that the low rates may create a vested interest in their continuance after the growth of demand has brought the incremental costs to a point equal to, or even above, the average costs.

Many years ago, a number of manufactured-gas companies found themselves in this position after they had stimulated widespread resort to residential space heating by the establishment of heating rates originally justified because of redundant plant capacity. In railroad rate regulation, a striking example of a similar situation was that of the low commodity rates that the transcontinental railroads put into effect for eastbound Pacific Coast lumber, at a time when the balance



of railroad traffic was heavily in the westbound direction. Partly, at least, because of the low lumber rates, the balance shifted. But there was a long delay before the railroads succeeded in securing a corrective shift in their rate structures (See Fair and Williams, 1950, pp. 430-433).

*An Example from Telecommunications.* In many regulated industries the pricing decisions involve a conflict between equity and cost responsibility. Flat-rate local telephone service and the reluctance to move toward more cost-based measured service is a notable case in point. This conflict is central to debates on how telecommunications services should be priced. The focal point of this debate is how should the cost of the local loop, i.e., the telephone lines and other equipment used to connect a customer to the network, be recovered. In order to receive telephone service each customer must have a local loop. The cost that a local telephone company incurs for the local loop is directly related to the provisioning of service to a particular customer. The cost for the local loop is also independent of the number of calls carried on it. In addition to being required to place both local and long distance calls, the local loop provides a very important service which has traditionally been ignored in telecommunications ratemaking — access to the network. This service provides the customer with the ability to make and receive calls. It is interesting to note that studies on the demand for telecommunications confirm there is a separate demand for access to the network as well as network usage. Hence, strict cost responsibility criteria require that the customer directly pay for the local loop through his or her local rate.

Historically, the cost for the local loop was partially recovered from long distance service according to value service considerations. The result of this method of pricing arose out of over fifty years of policy decisions allowing local service to be priced at about half of its cost. As the telecommunications industry evolved to a more competitive structure, some policymakers recognized the fundamental incompatibility of competition and value of service pricing. To address this issue, the Federal Communications Commission (FCC) developed the access charge plan to gradually shift local loop costs being recovered through long distance rates to local telephone rates.

Due to strong political opposition encountered, the access charge plan at the federal level was scaled back. In addition, many state regulatory commissions elected not to develop intrastate access charge plans. One reason for the controversy over the plan was the conflict between prices based on cost responsibility considerations which require that a customer directly pay for the local loop, whereas equity

considerations may require that all services which use the local loop help pay for it.

In fact, opponents to the access charge plan argue that it is fair that the long distance companies should pay for the use of the local loop on the grounds that all services which use it should help to recover its cost. One impact of the current method of recovering the local loop costs is that those customers who make many long distance calls pay more than their own loop costs and those who make little or no long distance calls do not fully pay its cost. Nevertheless, many argue that the traditional low flat rate with subsidization by toll users is fair, possibly because of the tyranny of the status quo.

*Another Example: Natural Gas.* Field price regulation of natural gas provides yet another example of how legislators, regulators, and judges attempt to fashion the world more to their own perception of fairness. However, natural gas also illustrates the folly of trying to regulate an industry, or segment thereof, which cannot even remotely be characterized as a natural monopoly. Petroleum exploration is highly competitive with many firms free to enter or leave the industry. And, like it or not, natural gas is a close substitute for oil, with a corresponding close relationship in price. Thus, field price regulation resulted in shortages of natural gas, distortions in resource allocations, and higher oil prices than would have prevailed under a system of competitive pricing. The results were perceived by the Congress to be so undesirable that field price regulation is now being phased out under the Natural Gas Policy Act of 1978. In this case entry was severely constrained by regulation. Regulators found they could not hold prices down and simultaneously encourage sufficient entry to prevent shortages. Positive and normative aspects of the problem therefore met head on.

### Compensatory Income Transfer Standards

Sometimes supporting, sometimes conflicting with, good-faith or reasonable-expectation standards of fairness are other standards concerned directly with the income-transfers sufficient to recompense the providers of service. The issue is with the fairness (rather than with the motivating and restraining efficiency) of the payment for the service due from the consumer and receivable by the producer. This is the effect we distinguished in Chapter 4 as giving rise to one of the four major functions of public utility rates — the compensatory income-transfer function.

Two rival standards for the effective performance of this function



were set forth: the compensation standard, in which the payment is based on an indemnity principle, or at least on some measure of fair payment not too far removed from that of indemnity; and the ability to pay principle. Both of these principles, frequently combined in indefinite mixtures, have had their influence on ratemaking law and on its administration, and each of them has been defended, sometimes as an instrument for the efficient performance of the work of the world, sometimes on grounds of "inherent fairness." The first principle supports a cost-price basis of ratemaking; the second would support whatever deviations from cost can feasibly be applied in order to minimize the burdens falling on those ratepayers with lower incomes. The previous chapter has taken the position, held in common with many other economists, that the compensation principle of ratemaking is far preferable to an ability-to-pay principle, save under certain conditions, such as revenue deficiency. But the ability-to-pay principle has considerable popular support.

### Notional Equality Standards

By notional-equality standards, we refer to a popular tendency, already noted in an earlier paragraph, to assert the fairness of uniform rates for the same type of service despite significant differences in (marginal) cost of rendition and perhaps, also, in own price elasticity of demand. Possibly this tendency is really a distorted reflection of an ability to pay standard. But it certainly fails to accord with any of the more general theories of income distribution. Instead, it accepts a specious egalitarianism. One example of the influence of this egalitarianism has already been noted — the popular support given in this country to uniformity of rates throughout a wide area quite apart from considerations of simple administration and from difficulties in the way of reliable cost allocation. For instance, the fact that many countries have uniformity of charges for mail throughout their entire metes and bounds, and regardless of distances, does not constitute a serious violation of the cost principle since the major expenses are for collection and delivery. Moreover, the specter of arbitrary common costs raises its head in postal service as, e.g., the same truck may be used to deliver different classes of mail to various addressees.

Convenience is always a respected ground for a disregard of minor cost differentials in ratemaking. On occasion, it may even be a valid ground for the disregard of major cost differentials. Some commissions, such as the ICC (Shartman, 1936), have historically tussled with the perceived conflict of "equal treatment" interpreted as formal rate

uniformity despite cost differentials or in the different sense of uniform adherence to cost standards.

From the standpoint of public utility rate theory and practice, the most frustrating of all of the egalitarian notions is the one which tends to identify a fair charge with a charge related only to the customer's intake of service as measured by energy-consumption. Variations in charges for "readiness to serve" or even more so for an option demand are often resented as unfair — even if they are entirely defensible — on grounds of strict cost responsibility. Yet such charges are now or have in the past been imposed in the electric, natural gas, telephone, etc. sectors.

### FAIRNESS: AN ELUSIVE CONCEPT

Enough has been said in this brief review of fairness aspects of rate regulation to suggest why their influence has been found so frustrating by economists and by many rate experts. In the first place, there are no uniformly accepted, measurable standards of fairness. In a word, fairness is elusive. Thus, regulatory authorities have revealed a preference for the relatively objective, capital-attraction test of adequate rates as against a test based on more subjective considerations of fairness. As the former FPC Commissioner Conole (1956, p. 6) colorfully stated: "I emphasize 'objective standard,'" he writes, "because any attempt subjectively to demonstrate concepts so abstract as justice and reasonableness suffers all too often from the legendary abuses of the old English equity courts, summarized in the familiar bromide that equity justice varies with the length of the chancellor's foot."

Moreover, some of the more widely held considerations of equity clash seriously, at times, with those criteria of functional efficiency that have been the primary concern of the economist and which by necessity are one of the major concerns of regulation. Even the good-faith considerations clash at times, despite the impelling reasons for giving them due recognition. But more serious are those deterrents not only to rational practice but even to rational thinking set up by what we have called the notional-equality standards of equity.

What, if any, contributions can public utility rate theory make toward the reduction in these conflicts among rival standards of fairness and between fairness and efficiency standards? At least at the present time, the major opportunity for contribution lies in a disclosure of the presence of these conflicts throughout the field of public utility regulation, in a careful analysis of their nature, and in an effort to bring them sharply to the attention of the interested public in general



and of persons concerned with ratemaking or rate regulation in particular.

Whether or not the rate theorist should go further and take part, in his or her professional capacity, in controversies about rival standards of fairness is another question. The answer usually given by economists is in the negative, on the ground that the question, being one of ethics, goes beyond their professional competence. But while this answer is a forcible one and justifies a warning by economists that they are out of their special field or competence and interest in expressing views on equity, it does not carry the complete conviction suggested by its implied distinction between means and ends.

For even standards of fairness are properly judged, at least in part, by their utilitarian values, and this statement applies alike to good-faith standards and to standards of fair income-distribution. The really serious obstacle to rational solutions of questions of economic policy involving issues of fairness lies, not in the philosophical insolubility of any dispute about ultimate ends, but rather in human inability to predict remote consequences. But in making attempts at a prediction, economists are entitled to use whatever training and experience they may have in doing their fumbling best. Despite economists' frequent denial that considerations of fairness fall within their professional concern, a study of their expressed or implied attitudes on concrete issues of fairness makes it clear that these attitudes are decidedly influenced by their profession. What distinguishes non-radical political economists at least (we are not competent to comment on radical political economists) is not a readiness to take positions on economic policy in ruthless disregard of considerations of equity but, rather, a tendency of some to tailor their own conceptions of equity so as to bring them more nearly into harmony with their conceptions of economic efficiency.

In any case, one conclusion as to the proper role of fairness standards in the determination of reasonable rates seems to us to be clearly justified. It is that this fairness role, though essential, should be a subordinate one. Considerations of fairness or equity, when calling for separate recognition, must be regarded as restraints against the unqualified acceptance of general principles of ratemaking based on considerations of maximum economic or social efficiency.

## PART THREE

### THE RATE BASE AND RATE OF RETURN

Complex problems such as those raised by modern rate regulation can be usefully analyzed by cross classification. Again using this technique, as we did in Chapter 9 in the discussion of the efficiency and fairness criteria, we now examine the distinction between the determination of a company's general level of rates, and the determination of specific rates or rate relationships. The chapters of Part Three are concerned with rate-level determination under the standard of a fair return, whereas those in Part Four are devoted to a discussion of the far more complex problems of rate structure. But the distinction between rate-level and rate-structure problems is one of convenience rather than of analytical logic. The really basic distinction is that between an adequate-revenue or fair-return standard of reasonable rates and all other standards of such rates.

In Chapter 10 we define precisely what is meant by a "fair return" and discuss the historical precedents of this standard as it has evolved and developed in the United States. Based partly on precedent and partly on the general objectives of public utility rates as specified in Chapter 5, five criteria of a fair return are proposed and discussed. These criteria include a rate level sufficient to (1) attract capital, (2) encourage consumer rationing, (3) promote managerial efficiency, (4) encourage rate-level stability and predictability and (5) provide fairness to investors. Other lists of criteria are of course possible, but allowed levels of earnings that are sufficient to meet these criteria should be judged as providing a fair return.

The objectives of ratemaking policy presented in Chapter 10 apply to the determination of an overall fair return measured in absolute dollars per annum. However, the amount of this return is usually calculated through the application of a percentage rate to the dedicated rate base. In Chapters 11 through 13 we turn to the measurement of this rate base — the most widely disputed legal issue in the history of American public utility regulation. The two positions discussed in this Chapter 11 are (1) the original-cost principle of ratemaking — a principle now accepted, with or without qualifications, in all of the