

Principles of Public Utility Rates, James C. Bonbright

“Reasonable public utility rates, like reasonable prices in general, are rates designed to perform with reasonable effectiveness multiple functions as instruments of social control... Hence, to a substantial extent, sound ratemaking policy is a policy of reasonable compromise amount partly conflicting objectives.”

- James Bonbright, Preface to Principles of Public Utility Rates,
1961

Regard for Principles of Public Utility Rates

The primary reference on the subject.

Cited and quoted throughout PUCs and the utility industry for nearly 40 years.

Overview of “Principles”

Part One – Basic Standards

The Public Interest

Cost of Service

Social Principles

Fairness versus Functional Efficiency (equity v. efficiency)

Part Two – Fair Returns

Rate Base Valuation

Fair Rate of Return

Part Three – Rate Structure

Criteria of Sound Rate Structures

Costs

Discrimination

Citation Guide

Edition: 1966, Fourth Printing, Columbia University Press

Many editions exist, thus in lieu of page numbers, we will use this approach: Part, Chapter, Section, Paragraph

As in, e.g. Pt One, Ch. I, Section: Intro, Para 1:

“This is a study of the standards of reasonable or optimum prices applied, or proposed for application, to that limited but vitally important class of business enterprises called ‘public utilities’.”

Part One – Basic Standards

Chapter I, The Public Utility Concept

Section: “PRIVATE” BUSINESS VERSUS BUSINESS “AFFECTED WITH A PUBLIC INTEREST”

Nebbia v. New York, 291 U.S. 502 (1934) “the private character of a business does not necessarily remove it from the realm of regulation of charges or prices... The guaranty of due process demands only that the law shall not be unreasonable, arbitrary, or capricious, and that the means selected shall have a real and substantial relation to the object sought to be attained.” FN 6

Part One – Basic Standards

Chapter I, The Public Utility Concept

Section: “ESSENTIAL NATURE OF THE SERVICE AND PUBLIC UTILITY STATUS”

Two Attributes: “special public importance or necessity” and “the possession by utility plants of...characteristics leading almost inevitably to monopoly or at least to ineffective forms of competition.” Para 3

Section: “PUBLIC UTILITY SERVICES VERSUS SOCIALIZED SERVICES”

Rates follow but do not mirror relative cost of serving a customer – generally they follow the maxim ‘let the beneficiary bear the burden’. With “socialized services” like streets, parks, and police there is no attempt at apportioning costs. Para’s 2 and 3

Part One – Basic Standards

Chapter I, The Public Utility Concept

Section: “PUBLIC UTILITY SERVICES VERSUS SOCIALIZED SERVICES” cont.

“Consumers of public utility services (1) should be free to take whatever types and amounts of service they are ready to pay for but (2) in return therefore should be required to pay rates not seriously out of line with costs of rendition.” Para 5

Part One – Basic Standards

Chapter II, The Public Interest As The Assumed Goal of Rate Making

SECTION: “PUBLIC INTEREST OR SOCIAL-WELFARE CRITERIA OF REASONABLE RATES”

The Public Interest: “almost unique in its extreme vagueness... One is tempted to say that the so called standard of public interest is nor a real standard at all; that, instead, it is a mere form of words of highly emotional content, invoked as an instrument of persuasion by people who have at hear much more immediate interests...interests often, but not always, of a self-seeking nature.” Para 1

Ways around that problem:

1. The public interest addresses the welfare of the community or state,
2. Economics focus on allocation of scarce resources,
3. Rates must fit into a larger economic environment. Para’s 4 - 6

Part One – Basic Standards

Chapter II, The Public Interest As The Assumed Goal of Rate Making

SECTION: ASSERTED RESTRICTION OF PUBLIC UTILITY RATE THEORY TO ‘ECONOMIC’ PRINCIPLES

The Test of Ratemaking: “[F]unctional efficiency in getting the work of the world accomplished – in attracting capital to public utility enterprises, in supply incentives to high-grade management, in controlling the demand for the service”. Para 3

SECTION: “RATES AND EFFICIENT PERFORMANCE OF FUNCTIONS”

“The reasonableness of any public utility rates should be determined primarily by standards of efficient performance of their accepted functions.”
Para 1

Part One – Basic Standards

Chapter II, The Public Interest As The Assumed Goal of Rate Making

SECTION: “RATES AND EFFICIENT PERFORMANCE OF FUNCTIONS”

The “*Hope Case*” – *Federal Power Commission v Hope Natural Gas Co.*, 320 U.S. 591 (1944)

The U.S. Supreme Court emphasis on “evidence tending to show that the prescribed rates were adequate to maintain sound corporate credit.” Para 3

Part One – Basic Standards

Chapter II, The Public Interest As The Assumed Goal of Rate Making

SECTION: “STANDARDS OF REASONABLE RATE INVOLVE REASONABLE RESOLUTIONS OF CONFLICTS OF INTEREST”

“[R]easonable rates are designed partly to resolve conflicts of interest among different parties, particularly between investors to whom a rate means a source of income and consumers to whom it means an item of expense.” Para 2

Rates should be “sufficiently high to maintain corporate credit and hence to assure the maintenance of adequate service.” Para 4

Part One – Basic Standards

Chapter III, The Role of Public Utility Rates

SECTION: “THE FOUR PRIMARY FUNCTIONS OF PUBLIC UTILITY RATES” (Note the inherent conflicts)

1. The Production-Motivation or Capital Attraction Function
“rates adequate to yield revenues that will cover all legitimate operating expenses plus a return on investment sufficient to maintain sound corporate credit and to attract required amounts of new capital.” Para 4
2. The Efficiency-Incentive Function
To make the utility operate efficiently – as a substitute for competition.
3. The Demand-Control or Consumer Rationing Function
To make the consumer, in effect, ration his consumption of utility services
4. The Income-Distributive Function
Paying the costs of the service while accounting for differences in ability to pay

Part One – Basic Standards

Chapter IV, Cost of Service at the Basic Standard of Reasonableness

SECTION: “THE THREE-FOLD RATIONALE OF A COST-PRICE STANDARD”

1. Consumers should be free to enjoy whatever amount of service they want, so long as they are ready to pay for the costs of that consumption,
2. Utilities should be motivated and enabled to supply the service in the amount demanded, and
3. Rates should ensure that those who use more, pay more than their direct costs as means of income distribution.

Part One – Basic Standards

Chapter V, Value of Service as an Ancillary Standard

Dr. Bonbright assesses the idea of moving from “cost of service” to “value of service” and concludes that it fails on three counts:

1. Cost of service itself prices in value as consumers shift usage amounts and times in response to prices,
2. Identifying the “value” for each customer class becomes impossibly hard,
3. Ratemaking already addresses “value” when it assesses different rates to different classes.

Part One – Basic Standards

Chapter VI, Competitive Prices as a Norm of Rate Regulation

Dr. Bonbright explores the theory that regulated rates should approximate the costs of service under market forces of competition. He finds it is an unwise approach because:

1. Competition is “a pretty tough game, often leading to individual or corporate bankruptcy” and it is unlikely that PUCs would impose competition’s real punishments,
2. Under competition, prices can be volatile and that has significant impacts on service and accessibility,
3. Under competition, not everyone gets every product in the amount they need, including businesses which employ people and use utility services,
4. Under competition, plant expansion is only undertaken when its economically beneficial (thus universality of service is lost).

Part One – Basic Standards

Chapter VII, Social Principles of Rate Making

SECTION: “THE MEANING OF SO-CALLED SOCIAL PRINCIPLES OF RATE MAKING”

Making the supply of utility services responsive to social costs and needs – addressing ‘ability to pay’, and the community benefits of utility services.

SECTIONS: “CRITIQUE OF THE ABILITY TO PAY PRINCIPLE” and “CRITIQUE OF THE DIFFUSION-OF-BENEFITS PRINCIPLE”

Concerns:

1. Measuring and forecasting social benefits and costs,
2. “[T]he certainty that exaggerated claims of community benefits [or impacts] will be put forward by pressure groups.”

Part One – Basic Standards

Chapter VIII, Fairness versus Functional Efficiency as Objectives of Rate-Making Policy

“[F]airness as between investors and consumers... fairness as among the different classes of consumers.” Into, Para 1

SECTION: “THREE TYPES OF FAIRNESS STANDARDS”

1. Good-Faith Standards

Investors: Should not suffer from changes in regulatory policy made after investments,

Consumers: Should not be induced to switch to a type of service under artificially low rates only to see the prices rise after they have committed to the service. Para’s 3 & 4

2. Income-Distributive Standards

Minimize the cost burden on those consumers with the lower incomes. Para 1

3. Notional Equality Standards

Uniform rates for the same type of service, despite significant differences in cost and demand. Para 1

Part One – Basic Standards

Chapter IX, Rate-Level Standards and Rate-Structure Standards

“The establishment of a rate for a regulated industry often involves two steps of different character... The first is the adjustment of a general revenue level to the demands of a fair return. The second is the adjustment of a rate schedule conforming to that level, so as to eliminate discriminations and unfairness from its details.”

*-Federal Power Commission v. Natural Gas Pipeline Company,
315 U.S. 575, 584 (1941)*

Part One – Basic Standards

Chapter IX, Rate-Level Standards and Rate-Structure Standards

SECTION: “THE ASSUMED PRIORITY OF THE FAIR-RETURN STANDARD”

The right of a utility to earn a fair return is subject to its ability to secure that return by means of rate schedules that are not unreasonable or discriminatory. Para 7

Part Two – Fair Return Standards

Chapter X, Criteria of a Fair Return

SECTION: “THE RELEVANT MEANING OF A RETURN”

“The allowed-for return is arrived at as a multiple of two factors: the rate base, and the reasonable or fair rate of return thereon.” Para 2

Part Two – Fair Return Standards

Chapter X, Criteria of a Fair Return

SECTION: “FIVE MAJOR CRITERIA OF A FAIR RETURN”

1. The Capital-Attraction Criterion

“Among these [five] criteria, high place, perhaps first place, must be given to that of capital-attracting efficiency.” Para 1

2. The Management-Efficiency Criterion

Should returns reflect the quality of management? Para 2

3. The Criterion of Rate-Level Stability

Rates should be smooth, so that no increase is required in recessions, nor rate cuts in expansion. Para 1

4. The Consumer-Rationing Criterion

Rates should cover costs and deter excessive use. Para 1

5. The Criterion of Fairness to Investors

Beyond return, there is a need for transparency – best achieved through gradually developing more definite rules which can be tested by experience. Para’s 4 - 7

Part Two – Fair Return Standards

Chapter XI, The Rate Base: Cost or Value

“We now turn to the measurement of [the] rate base – the most widely disputed legal issue in the history of American public utility regulation.” Intro, Para 1

“What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be extracted from it for the use of a public highway than the services rendered by it are reasonably worth.”

Smyth v. Ames,
169 U.S. 466, 546-547 (1998)

Footnote 3

Part Two – Fair Return Standards

Chapter XI, The Rate Base: Cost or Value

Fair value ran into criticism over two main concerns:

1. Acquisition prices' effect on value, if an arms-length transaction price was determined that had an effect on fair value, and
2. The vicious circularity argument: the allowed return effects the fair value itself, i.e., if higher returns are awarded the fair value of the property has increased – thus, the rate base is higher which means the return must be increased. Para's 2 & 3

Part Two – Fair Return Standards

Chapter XI, The Rate Base: Cost or Value

SECTION: “THE VICIOUS-CIRCLE OBJECTIONS TO A VALUE RATE BASE”

The first half of the 20th Century was controlled by “fair value” as rate base. Data on original construction costs were compared to data on current reproduction costs as rate base value was determined. Para 1

In 1944, the *Hope Case* addressed circularity in finding that “fair value is the end product of the process of rate-making not the starting point... [thus] rates cannot be made to depend upon ‘fair value’ when the value of the going enterprise depends on earnings under whatever rates may be anticipated.”

Para 3 and Footnote 6

The *Hope* Case

[Out of Order Briefing Point]

Part Two, Chapter XII, SECTION: “RECLASSIFICATION PROBLEMS IN STATEMENTS OF ORIGINAL COSTS”

“[I]n the *Hope* case, the Supreme Court, expressly renouncing the fair-value doctrine in *Smyth v. Ames*, upheld the Federal Power Commission in its acceptance of original-cost data to the exclusion of replacement-cost estimates in the measurement of a rate base.”

Part Two – Fair Return Standards

Chapter XI, The Rate Base, Cost or Value

SECTION: “CAN VALUE BE DEFINED SO AS TO AVOID VICIOUS CIRCULARITY?”

“The cost entitled to a fair return is the cost incurred for the public benefit, not the price paid to buy out other financial interests.” Para 3

Part Two – Fair Return Standards

Chapter XI, The Rate Base: Cost or Value

SECTION: “THE CONFUSED MEANING OF FAIR VALUE IN ACTUAL RATE REGULATION”

The problem begins with the difficult distinction between “value” and “cost”.
Para 1

The problem is then compounded by conflicting decisions in the legal world (the U.S. Supreme Court, and every court and commission, has had differing standards over time. Footnote 16

The result is a tendency to use reconstruction costs and original costs, in varying ways over time – “the result that even the expert, familiar with the decision by a particular commission in the last rate case, cannot predict with confidence how the conflicting data will be resolved by the same commission in a later case.” Para 2

Part Two – Fair Return Standards

Chapter XII, The Rate Base: Actual Cost

SECTION: “GENERAL NATURE OF THE ACTUAL-COST STANDARD”

Actual costs of plant and equipment devoted to public service

+

Allowance for interest during construction

-

Depreciation

+

Allowance for working capital

= Rate Base

Para 1

Part Two – Fair Return Standards

Chapter XII, The Rate Base: Actual Cost

SECTION: “GENERAL NATURE OF THE ACTUAL-COST STANDARD”

Four Problems in Application:

1. Original Cost v. Acquisition Cost
2. Allowance for Interest During Construction
3. Including as Capital Expense items charged as Operating Expense
4. Allowance for Depreciation (both as annual operating expense and as deduction from rate base) Para 2

Part Two – Fair Return Standards

Chapter XII, The Rate Base: Actual Cost

Definitions:

“Original Cost... a term of art. It means the cost of an asset when first devoted to the public service rather than the cost to a transferee company.”

“Prudent imports the requirement that the investment... must have been prudently incurred in the light of foresight rather than of hindsight.”

“Net means net of deductions either for capital investments already recouped from revenues charged to depreciation or amortization, or else for depreciation already sustained – an obvious ambiguity.”

“Investment refers to the capital funds contributed...as distinct from the current values of the assets acquired by these funds.” Footnote 2

Part Two – Fair Return Standards

Chapter XII, The Rate Base: Actual Cost

SECTION: “ORIGINAL CONSTRUCTION COST VERSUS SUBSEQUENT ACQUISITION COST”

Investors are compensated for devoting capital to the public service – acquiring a utility company is not devoting capital to the public service, it is the purchase of the legal interests of the prior owners. Para 5

But “if the transfer... was an essential, or at least a desirable, part of a program of integration, justified in the public interest for the purpose of securing operating efficiencies...a claim by the present company that its purchase of the acquired properties was, in effect, a devotion of capital to the public service, cannot be dismissed as without merit.” Para 6

Part Two – Fair Return Standards

Chapter XII, The Rate Base: Actual Cost

SECTION: “INTEREST DURING CONSTRUCTION”

As long as plant is excluded from rate base until it becomes used and useful there is a need for a rate-making provision to allow the company recovery of the funds committed in advance of recovery – interest during construction. Para’s 1 & 2

Part Two – Fair Return Standards

Chapter XII, The Rate Base: Actual Cost

SECTION: RECLASSIFICATION PROBLEM IN STATEMENTS OF ORIGINAL COSTS

The importance of the choice “between capital outlays and operating costs lies in the fact that...[utilities] may not seek restitution from later consumers for deficiencies in revenues secured from earlier consumers; nor, on the other hand, may realized earnings in excess of an established “fair rate of return” be credited to the rate base as a return of capital.” Footnote 14

Part Two – Fair Return Standards

Chapter XII, The Rate Base: Actual Cost

SECTION: THE DEDUCTION FOR ACCRUED DEPRECIATION

“The deduction for depreciation, under the actual-cost standard, may be defined as a deduction for that part of the capital costs of the fixed assets that has already been, or should have been, recouped from past revenues.” Para 2

Part Two – Fair Return Standards

Chapter XII, The Rate Base: Actual Cost

SECTION: “THE TWO MAJOR ADVANTAGES OF AN ACTUAL-COST RATE BASE”

1. Administrative feasibility, and
2. Capital-attracting or capital-maintaining efficiency.

Part Two – Fair Return Standards

Chapter XII, The Rate Base: Actual Cost

SECTION: “SUPERIOR ADMINISTRATIVE FEASIBILITY”

The lack of engineering and economic argument over reconstruction costs leads to simpler rate cases, shorter regulatory lag, and more concrete decisions. Para 1

SECTION: “GREATER EFFECTIVENESS IN CREDIT MAINTENANCE”

What induces investment is the expectation of a return on (or return of) costs that will become sunk once they are made. Thus, using those costs as the assumed rate base aligns with investors’ expectations.

Para 2

Part Two – Fair Return Standards

Chapter XIII, The Rate Base: Allowances for Depreciation under an Actual-Cost Standard

SECTION: “ACCRUED DEPRECIATION DEFINED AS AMORTIZED COST AND NOT AS DECLINE IN VALUE”

Depreciation “represents the part of the costs which has already been charged to previous periods of operation.” Para 1

It provides “a company an adequate opportunity to recoup from consumers its investments in fixed assets during their estimated useful lives.” Para 3

Part Two – Fair Return Standards

Chapter XIII, The Rate Base: Allowances for Depreciation under an Actual-Cost Standard

SECTION: “THE DEPRECIATION ALLOWANCE VIEWED AS A TEMPORAL COST ADJUSTMENT”

Depreciation costs are apportioned “among the years during which [the assets] perform service instead of charging them in lumps either to the year of acquisition or to the year of retirement.” Para 1

SECTION: “THE APPORTIONMENT OF COSTS ON RELATIVE-BENEFIT PRINCIPLES”

“The burden of reimbursing a company for the acquisition of capital assets is distributed over the periods during which customers will enjoy [their] use”.
Para 1

Part Two – Fair Return Standards

Chapter XIII, The Rate Base: Allowances for Depreciation under an Actual-Cost Standard

SECTION: “SINKING-FUND, STRAIGHT-LINE, AND DIMINISHING-CHARGE APPORTIONMENTS”

Straight-line is most commonly applied: amortize the costs through equal annual charges.

Sinking-Fund combines the return of capital function with the return on function – using an interest component in addition to the equal annual charges.

Diminishing-Charge uses larger early year charges to recover investment costs.

Para's 1 - 4

Part Two – Fair Return Standards

Chapter XIII, The Rate Base: Allowances for Depreciation under an Actual-Cost Standard

SECTION: “QUALIFICATION OF THE STATEMENT THAT ACCRUED DEPRECIATION REFLECTS RECOUPED INVESTMENT”

“One may say that the depreciation reserve of a public utility company reflects capital already recouped if, but only if, it has been built up through charges to previous periods of operation, in all of which periods the company has enjoyed revenues at least equal to its operating expenses including the depreciation charges.” Para 3

Part Two – Fair Return Standards

Chapter XIII, The Rate Base: Allowances for Depreciation under an Actual-Cost Standard

SECTION: “THE DEPRECIATION OR AMORTIZATION OF ACQUISITION-ADJUSTMENT COSTS”

Assuming the PUC found the acquisition was in the public interest (as earlier outlined) then the cost above book should be amortized – but “an arbitrary rate, such as characterizes accounting practice with respect to some intangibles, may be chosen.” Para 3

The amortization should not, however, be “seriously burdensome to present customers” since their service is unlikely affected. Para 3

Part Two – Fair Return Standards

Chapter XIII, The Rate Base: Allowances for Depreciation under an Actual-Cost Standard

SECTION: “ALLOWANCES FOR INCOME TAXES UNDER DIMINISHING-CHARGE DEPRECIATION ACCOUNTING”

PUC’s prefer straight-line depreciation.

The IRS allows diminishing-charge depreciation (sum of the years digits, declining balance, e.g.). Thus utilities face a discrepancy between their income statements for tax purposes and their income statements for regulatory purposes.

Part Two – Fair Return Standards

Chapter XIII, The Rate Base: Allowances for Depreciation under an Actual-Cost Standard

SECTION: “ALLOWANCES FOR INCOME TAXES UNDER DIMINISHING-CHARGE DEPRECIATION ACCOUNTING”

The discrepancy leads to the need for “deferred tax accounts”. Para 2

Three ways to resolve the discrepancy:

1. Disallow any tax recovery other than actually paid taxes,
2. Normalize taxes and treat deferred tax as “a restricted surplus and not a reserve representing amortized capital costs”, or
3. Normalize taxes and treat deferred tax as a deduction “from cost new in arriving at the rate base just as is the ordinary depreciation reserve.”

Para 3

Part Two – Fair Return Standards

Chapter XIV, The Rate Base: Replacement Cost as an Alternative Standard

NOTE: Bonbright uses “replacement cost” as a synonym for “reproduction cost”. FN 1

SECTION: “REPLACEMENT COST OF SERVICE AS THE RELEVANT COST”

The question between replacement cost and actual cost is over the economic issue of actual value (affecting capital attraction and resource consumption choices) and sunk costs (investments already made).

Para 1

Bonbright concludes that the economic arguments against actual cost can be overcome, while the arguments against replacement cost (potentially enriching investors for non-expense increases in general prices) cannot.

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: Introduction

“[T]oday, the most critical and controversial part of a general rate case is likely to be given over to the conflicting testimony and exhibits of the finance witnesses”. Para 1

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “COST OF CAPITAL AS THE BASIC STANDARD OF A FAIR RATE OF RETURN”

Reasonable rates = Rates that cover the total costs actually and prudently incurred to provide utility service... The costs include a fair return over and above the annual depreciation expense for a return on the investment. “For a company that cannot meet its costs of capital... cannot long continue to supply adequate public utility service”.

Para’s 2 & 3

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “COST OF CAPITAL AS THE BASIC STANDARD OF A FAIR RATE OF RETURN”

The cost of capital estimate in rate cases should include “real but immeasurable items of cost, for regulatory lag, and even perhaps as a reward for efficient operations.” Para 5

Weighted Average Cost of Capital (“WACC”) is explained, noting that retained earnings are treated as a component of common stock.

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “COST OF CAPITAL AS THE BASIC STANDARD OF A FAIR RATE OF RETURN”

Calculating the Weighted Average Cost of Capital (“WACC”) Para’s 6-8

	Percent of Total Capital	Annual Cost	Return on Total Capital
Funded Debt	50%	3.5%	1.75%
Preferred Stock	15%	4.5%	0.675%
Common Stock	35%	10%	3.5%
Overall Computed Cost of Capital			5.925%

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “COST OF CAPITAL AS THE BASIC STANDARD OF A FAIR RATE OF RETURN”

In confronting atypical capital structures, Bonbright argues that generally the actual capital structure should be used unless it is “unsound or extravagantly conservative” in which cases the structure should be hypothetical to reflect “legitimate cost”. Para’s 9 - 10

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE COST OF CAPITAL AS THE BASIC STANDARD OF A FAIR RATE OF RETURN”

“The really critical problem in the determination of the overall cost of capital is that of estimating the cost of the common-stock component.”

Para 17

Because companies are not bound to set dividend payments, there are no ‘actual, historical costs’ – analysts must use ‘current cost tests’ to estimate the cost of common stock required to continue to attract capital. Para 20

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE COST OF CAPITAL AS THE BASIC STANDARD OF A FAIR RATE OF RETURN”

The analyst has two relevant types of statistical data: earnings-price ratios for the company under review (or for comparable companies; and a ratio of dividend yields compared to average annual market prices. Para 25

[NOTE: Today, PUCs use the Dividend Discount Growth Models and Capital Asset Pricing Models (“CAPM”) to estimate the cost. Consumer advocates, Staff, and Companies select different companies for comparison, and apply different risk factors in the models – leading to a wide range of disputes and COEs”]

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE ALTERNATIVE TEST OF A RATE OF RETURN EQUAL TO THAT EARNED ON INVESTMENTS IN OTHER ENTERPRISES OF CORRESPONDING RISKS”

The U.S. Supreme Court in *Bluefield Waterworks & Improvement Co. v. Public Service Commission*, 262 U.S. 679, 692-695 (1923) found that:

“A public utility is entitled to such rates as will permit it to earn a return... equal to that generally being made at the same time and in the same general part of the country on investments... which are attended by corresponding risks and uncertainties.”

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE ALTERNATIVE TEST OF A RATE OF RETURN EQUAL TO THAT EARNED ON INVESTMENTS IN OTHER ENTERPRISES OF CORRESPONDING RISKS”

Bluefield reiterated the two-fold test of a fair rate of return:

1. The rate granted to a utility must be equal to investments in other equally risky business enterprises, and
2. The rate must suffice to maintain the credit and the capital-attracting ability of the utility. Para 4

The question is which is primary, Bonbright argues it is Point 2.

Para 5

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE ALTERNATIVE TEST OF A RATE OF RETURN EQUAL TO THAT EARNED ON INVESTMENTS IN OTHER ENTERPRISES OF CORRESPONDING RISKS”

Bonbright concludes the section by saying that comparisons have “a real, though limited usefulness. The rate of return proposed as fair for any given company may be compared to the rates actually earned by similar companies in the same jurisdiction or in other jurisdictions...[But this comparison] is not conclusive in the absence of adequate reasons to assume that the realized earnings of the other companies fall within the range of a fair rate of return.” Para 8

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “POSSIBLE ALLOWANCES FOR THE EFFICIENCY FACTOR”

Bonbright explores “the wisdom of more systematic and deliberate efforts on the part of regulating agencies to distinguish, somewhat as competition is supposed to do, in favor of companies under superior management.” Para 2

He suggests “differential rate of return” – whereby returns are adjusted up or down to reflect management capacity (and when adjusted down, to trigger investor/shareholder focus on management issues.) Para’s 2 - 4

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “POSSIBLE ALLOWANCES FOR THE EFFICIENCY FACTOR”

Bonbright’s conclusion is that “adequate objective tests of relative efficiency in the performance of public services” are required before differential rates of return can be enacted and tested. Para’s 5 & 6

He urges PUCs to explore this complex challenge because, “the attempted solution of difficult problems is the task of modern public utility regulation.” FN 22

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE FAIR RATE OF RETURN ON AN ACTUAL COST RATE BASE IN A PERIOD OF INFLATION”

“Whether, and to what extent the common stockholders in public utility companies are entitled to the protection of their ‘real’ income against a fall in ‘the value of the dollar’.” Para 2

Two ways of providing inflation protection:

1. Adjusting rate base value upward, or
2. Index-number enhancements to the rate of return. Para 2

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE FAIR RATE OF RETURN ON AN ACTUAL COST RATE BASE IN A PERIOD OF INFLATION”

Primary issue: Should stockholders be protected against inflation?

Bonbright cites John E. Benton, NARUC Counsel, in 1945: in severe inflation periods an increase to rate base or rate of return “would be required not only in justice to investors but in obedience to economic law...Investors [he added] simply will not buy utility securities, if they find that progressive inflation operates to destroy progressively their right to receive just and reasonable compensation for the service their properties render.” Para 3

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE PROBLEM VIEWED FROM THE STANDPOINT OF FINANCIAL NECESSITY OR EXPEDIENCY”

The argument for inflation protection “rests on the contention that...unless the utility companies receive assurance of [inflation] adjustments in the future, they will not be able to raise adequate amounts of new capital, at least not on reasonable terms, in an investment market convinced of the probability of further inflation and of the unlikelihood of later deflation.” Para 1

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE FAIRNESS ISSUE”

The problem with inflation adjustments is that the burden of protecting investor returns is borne by customers whose income does not adjust for inflation. Para 1

Bonbright argues that the fairness issue is reliant on investor expectations – did the PUC or the Court give reasonable grounds to anticipate responses to inflation? “In states that have adhered persistently to a fair-value rate base, the argument of reasonable anticipation can be urged with much force” and where actual cost was used the argument would rely on “whatever liberality, in rate of return allowances, the commissions have actually exercised in the past.” Para 3

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE FAIRNESS ISSUE”

Bonbright believes “the fairness issue is a close one – so close that I believe that the merits of proposals for systematic inflation adjustments on behalf of utility stockholders should be judged primarily on the basis of capital-attracting efficiency...the provision of overt adjustments, whether in the rate base or in the rate of return, may prove the more satisfactory arrangement, alike to investors and consumers... the compensation for inflation would then be paid only if, and to the extent that, inflation actually occurs”. Para 7

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “SHOULD INFLATION ADJUSTMENTS BE MADE VIA THE RATE BASE OR THE RATE OF RETURN?”

Bonbright argues for an exception to actual-cost rate base which restates the invested amount to reflect inflation’s impact and urges that such adjustment should only be applied to the common-equity capital. He concludes that the Consumer Price Index is the best measure of inflation’s impact. Para 1

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE FAIR RATE OF RETURN ON A FAIR-VALUE RATE BASE”

“[I]n fair-value jurisdictions, the general, though not universal, tendency has been to allow less liberal rates of return than would be allowed to comparable companies subject to an actual-cost rate base.”

Para 1

WHY?

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE COUNTERVAILING-FALLACY PRINCIPLE”

The PUC counteracts the presumed fallacy of allowing a return on fair (i.e., market influenced) rate base by conceding a lower rate of return.

Para 2

Bonbright calls this “more than dubious”, a “serious vice” lacking “full and frank disclosure” that is worse than “a circumvention of the fair-value law since the law itself would then have ceased to exist except as a meaningless and expensive legal ritual.” Para 3

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE REPRODUCTION-COST PRINCIPLE”

The PUC uses several years’ average data to determine a reproduction cost for rate base less depreciation, and then provides a lower return based on that hypothetical entity’s ability.

Bonbright argues that this approach violates the credit-maintenance test of fair rates – how is the required return for a hypothetical company with reproduced assets related to the credit-maintenance needs of an actual company with actual assets that have real depreciation from operation (not just capital return)?

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “THE INFLATION-PROTECTION PRINCIPLE”

The PUC defends its fair-value approach by allowing utility shareholders an adjustment to rate base for inflation, then discounts the return to reflect the diminished risk on their investment because of the inflation-adjusted rate base.

Bonbright looks dimly on this approach because it is a complexity designed to support a charade. He argues that actual-cost rate base adjusted for inflation achieves the same end and relies on actually experienced costs – and does so without reducing the common stock earning ratio, providing more transparency. Para’s 1 - 3

Part Two – Fair Return Standards

Chapter XV, The Fair Rate of Return

SECTION: “HOW ARE FAIR RATES OF RETURN ACTUALLY DETERMINED BY PUBLIC SERVICE COMMISSIONS?”

“Especially in fair-value jurisdictions, some of the decisions lead one to suspect that the commissions have first reached a conclusion as to reasonable revenue requirements in terms of dollars per annum and then have proceeded to translate these requirements into whatever combination of a rate base and a percentage rate of return will be likely to pass muster with the appellate courts or with public sentiment.”

Para 1

Part Three – The Rate Structure

Chapter XVI, Criteria of a Sound Rate Structure

SECTION: Introduction

The most difficult element of rate structures is not the mass of technical details, but “of taking into account numerous conflicting standards of fairness and functional efficiency in the choice of a rate structure.” Para’s 1 - 3

Part Three – The Rate Structure

Chapter XVI, Criteria of a Sound Rate Structure

SECTION: “CRITERIA OF A DESIRABLE RATE STRUCTURE”

1. Simplicity, understandability, public acceptability, and feasibility.
2. Freedom from controversies as to proper interpretation.
3. Effectiveness in yielding total revenue requirements.
4. Revenue stability from year to year
5. Stability of the rates (minimize unexpected rate changes).
6. Fair cost allocation among the different consumer classes.
7. No undue discrimination in rates.
8. Efficiency in resource consumption choices and usage (optimum use).

Part Three – The Rate Structure

Chapter XVI, Criteria of a Sound Rate Structure

SECTION: “THREE PRIMARY CRITERIA”

1. The revenue-requirement objective,
2. The fair-cost apportionment objective, and
3. The optimum-use objective.

QUICK REVIEW & COMPARISON

Chapter XVI

“THREE PRIMARY CRITERIA”

(of sound rates)

1. The revenue-requirement objective,
2. The fair-cost apportionment objective, and
3. The optimum-use objective.

Chapter III

“THE FOUR PRIMARY FUNCTIONS”

(of public utility rates)

1. The Production-Motivation or Capital Attraction Function,
2. The Efficiency-Incentive Function,
3. The Demand-Control or Consumer Rationing Function,
4. The Income-Distributive Function.

Part Three – The Rate Structure

Chapter XVI, Criteria of a Sound Rate Structure

SECTION: “IMPORTANCE AND LIMITATIONS OF THE PRINCIPLE OF COST OF SERVICE”

“Without doubt, the most widely accepted measure of reasonable public utility rates is cost of service.” Para 1

Part Three – The Rate Structure

Chapter XVI, Criteria of a Sound Rate Structure

SECTION: “NECESSARY DEVIATIONS FROM A COST OF SERVICE STANDARD”

Three factors require deviation from cost of service in rates:

1. Excessive complexity of cost relationships (each customer has different uses, different times of use, different distance from central plant, etc.)
2. Failure of the sum of differential costs to equate with total costs (if every customer's exact costs were calculated, the likelihood that the sum of all those costs would equal total costs is nil).
3. The 'cost' used to calculate required revenue is not the 'cost' in rate design. $\text{Rate base} = \text{Fixed Costs}$. $\text{Rates} = \text{Fixed} + \text{Variable Costs}$.

Part Three – The Rate Structure

Chapter XVI, Criteria of a Sound Rate Structure

SECTION: “AGGREGATE CLASS COST AS A RATE MAKING STANDARD INTERMEDIATE BETWEEN TOTAL COST AND MARGINAL COST”

When Bonbright wrote this section, the idea of class costs was debated – today it is resolved. Bonbright suggested, and it has come about, that costs be allocated to general classes of customers, and each class should “pay rates at least sufficient to cover the incremental costs of supplying that group.”

Para’s 1 - 3

Part Three – The Rate Structure

Chapter XVI, Criteria of a Sound Rate Structure

SECTION: “COMMENTS ON THE RATE STRUCTURE SUGGESTED ABOVE”

“[T]he rate maker has at his command a wide variety of schemes of differential rate making which he must apply, not singly but in combination. The choice of the best combination is unavoidably in the nature of a compromise.” Para 2

Part Three – The Rate Structure

Chapter XVII, Marginal Costs, Short-Run and Long-Run

SECTION: Introduction

Marginal cost “plays an important role in the design of the rate structure. In fact, it may play a dual role: first, in setting a lower limit below which no rates will be fixed... and secondly, in serving as a basis for relative rates, subject to deviations of a value-of-service nature.”

Para 2

Part Three – The Rate Structure

Chapter XVII, Marginal Costs, Short-Run and Long-Run

SECTION: “DISTINCTION BETWEEN SHORT-RUN AND LONG-RUN MARGINAL COSTS”

Marginal Cost – The increase in production cost from one additional unit of output.

Short-Run Marginal Cost – Assumes the increase is temporary and can be met with existing plant capacity.

Long-Run Marginal Cost – Assumes the increase is indefinite and will necessitate changes to plant capacity.

Para's 1 & 3

Part Three – The Rate Structure

Chapter XVII, Marginal Costs, Short-Run and Long-Run

The economic question is thus – should short-run marginal costs or long-run marginal costs be used as the measure of minimum rates?

SECTION: “THE CASE FOR SHORT-RUN MARGINAL COSTS”

The costs that are paid are the costs that were incurred during the period of service.

SECTION: “THE CASE FOR LONG-RUN MARGINAL COSTS”

Investment decisions are made on long-run demand expectations.

Bonbright’s conclusion: “Short-run marginal costs should not be ignored” but long-run marginal costs have the greater importance.

Part Three – The Rate Structure

Chapter XVIII, Fully Distributed Costs

A fully distributed cost is the cost apportioned rate paid by a customer class. Para's 1 – 2

SECTION: “FULLY DISTRIBUTED COSTS AS FIRST APPROXIMATIONS OF MEASURES OR REASONABLE RATES”

“Fully apportioned costs, then, should reflect cost relationships, not absolute costs.” Para 3

Part Three – The Rate Structure

Chapter XVIII, Fully Distributed Costs

SECTION: THREE-PART ANALYSIS OF THE COSTS OF AN ELECTRIC UTILITY BUSINESS

1. The Customer Costs: operating and capital costs which vary based on number of customers. E.g., infrastructure, billing, metering. Billed in monthly service charge.
2. The Energy Costs: those operating costs that vary based on customer demand. E.g., fuel costs. Billed as consumption charge.
3. The Demand Costs: operating and capital costs affected by the amount, time, and pace of customer demand. E.g., depreciation, return on investment, many operating and maintenance costs. Billed as demand charge.

Part Three – The Rate Structure

Chapter XIX, Discrimination, Due and Undue

SECTION: “ECONOMIC MEANING OF PRICE OR RATE DISCRIMINATION”

“[O]ne of the cardinal attributes of prices under assumed conditions of ‘perfect competition’ is that of a uniform price for any one product at any given time and place.” Para 1

Part Three – The Rate Structure

Chapter XIX, Discrimination, Due and Undue

SECTION “THE PROBLEM OF DISTINGUISHING BETWEEN DESIRABLE AND UNDESIRABLE RATE DISCRIMINATION”

Bonbright recognizes that “value of service” differs and that there are times when one wants to “incent” usage of a utility service, and concludes that such practices should be strictly limited.

Part Three – The Rate Structure

Chapter XX, The Philosophy of Marginal-Cost Pricing

Bonbright explains that utility rates should cover costs of service including a fair return; and that specific rates should be based on specific amounts, types, and costs of service. But only under extraordinary luck would those two amounts equate. This final chapter explores the notion of using marginal-cost pricing to bridge that gap.

Bonbright concludes that the complexity of the undertaking and its violation of numerous principles of rate design make it an unacceptable approach – moreso because actual cost economics handles the matter (as evidenced by the proliferation and universality of utility service.)