A Price-Level (Incentive) Regulation Proposal for Oil Pipelines

Win Whittaker
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Introduction

The U.S. Department of Justice concluded in a 1986 report (the DOJ Deregulation Report) that all crude oil pipelines and all but a handful of product oil pipelines are subject to meaningful competition. Based on that conclusion, the Justice Department recommended deregulation of oil pipelines lacking "market power." Although deregulation bills were introduced in subsequent sessions of Congress, they never saw the legislative light of day. Instead, in the Energy Policy Act of 1992, Congress passed the buck back to the Federal Energy Regulatory Commission (FERC or the Commission), which regulates interstate oil pipelines. Section 1801(a) of the 1992 Act provides: "Not later than 1 year after the date of the enactment of this Act, the Federal Energy Regulatory Commission shall issue a final rule which establishes a simplified and generally applicable ratemaking methodology for oil pipelines in accordance with section 1(5) of part I of the Interstate Commerce Act." Section 1(5) is the Interstate Commerce Act's "just and reasonable rate" provision. In the

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2. Id. at 61-62.


7. 49 U.S.C. § 1(5)(a) (1958). Section 1(5)(a) provides: "All charges made for any service rendered or to be rendered in the transportation of passengers or property as aforesaid, or in connection therewith, shall be just and reasonable, and every unjust and unreasonable charge for such service or any part thereof is prohibited and declared to be unlawful." Id. Congress recodified the Interstate Commerce Act as 49 U.S.C. §§ 10,101-11,999 in 1978. Interstate Commerce Act, Pub. L. No. 95-473, 92 Stat. 1337

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meantime, two decisions by Federal Energy Regulatory Commission administrative law judges also suggested that the oil pipeline business is becoming more competitive.

While Congress was deferring to the FERC, the FERC was deferring to the pipelines. Then, on October 24, 1992, the Energy Policy Act became law. In a "Policy Statement On Incentive Regulation" issued on October 30, 1992, the FERC invited oil pipelines, as well as natural gas pipelines and electric utilities, to propose their own incentive regulation program. The FERC differentiated between "light-handed regulation" (a concept the Commission has yet to define, but has said applies to pipelines that lack market power) and "incentive regulation" (also a concept the FERC has not defined, but has said is not intended for competitive markets.)

Whatever incentive regulation is, it is not traditional cost-of-service regulation which (according to the FERC and other ratemaking agencies) does not provide the regulated entity any incentive to hold investments and operating costs to efficient levels. Thus, incentive regulation is a regulatory regime that induces the regulated entity to optimize its deployment of capital and operating expenses.

While the FERC cannot lawfully deregulate oil pipelines without statutory authority, the courts have signalled that ratemaking agencies are not legislatively tethered to traditional cost-of-service standards in assuring a regulated entity's rates are just, reasonable and nondiscriminatory. As the District of Columbia Circuit observed in Farmers Union Central Exchange Inc. v. FERC, an oil pipeline case, when a federal ratemaking agency finds that circumstances justify "moving from heavy to lighthanded regulation," the courts have "sanctioned dramatic reductions in regulatory oversight." Generally, federal agencies and many state agencies are moving away from traditional ratemaking standards and toward incentive regulation for two reasons.

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(1978). However, the redefinition excluded from the general repeal of prior statutes "those laws [that] vested functions in the Interstate Commerce Commission . . . related . . . to the transportation of oil by pipeline" and "those functions and authority [that] were transferred [to FERC] by sections 306 and 402(b) of the Department of Energy Organization Act." Id. sec. 11,916, § 4(c), 92 Stat. at 1470. The prior statutes therefore still govern FERC's authority over oil pipeline rates.


10. Id. ¶ 61,588 ("The Commission emphasizes that incentive regulation is not intended for competitive markets. It is intended for markets where the continued existence of market power prevents the Commission from implementing light-handed regulation without harm to consumers.").

11. Under the traditional cost-of-service approach, the Commission determines the regulated entity's cost of capital (rate of return) and investment (rate) base. The Commission multiplies the cost of capital times the investment base and, then, adds the entity's operating expenses to that to arrive at a revenue requirement. Rates are then adjusted to yield the revenue requirement. Illinois Bell Tel. Co. v. FCC, 911 F.2d 776, 778-79 (D.C. Cir. 1990).


13. Id. at 1510.
First, the failure of traditional cost-of-service regulation to achieve its primary objective — the replication of competitive results in terms of return levels, resource utilization, and efficiencies — is dramatic and well documented. As Professor (now Judge) Breyer observed: "[T]he regulatory process — even when it functions perfectly — cannot reproduce the price signals that a workable competitive marketplace would provide."14 Thus, Breyer concluded, "only serious market failure will, even arguably, warrant the adoption of cost-of-service ratemaking . . . ."15

Second, incentive regulation can minimize or eliminate the perverse economic incentives inherent in cost-of-service regulation and, at the same time, provide reasonable assurance that the pipeline's rates are just and reasonable. This is true even where market power exists. The Federal Communications Commission found the incentives inherent in cost-of-service regulation so perverse and the potential benefits of incentive regulation (which it called "price caps") so great that it imposed price cap regulation on AT&T when it controlled over 70% of the long distance market16 and on local telephone companies even though they possessed market power.17

The FERC has adopted a "policy" of light-handed regulation for oil pipelines lacking significant market power.18 However, the Commission has yet to define what is meant by light-handed and incentive regulation on a case-by-case basis.19 This is a daunting task given that over one hundred oil pipelines are subject to the FERC's regulatory authority.20

This article outlines a proposal to ease the Commission's task without forsaking the statutory goal of just and reasonable rates. The efficacy of the proposed regulatory regime does not depend on whether particular pipelines lack significant market power — the FERC's present one-dimensional qualification for light-handed regulation.21 That standard is far too static, limited, and costly.22 A more dynamic standard

15. Id.
20. See Oil Pipeline Deregulation Hearing on Title IV, Subtitle D, of H.R. 1155 and H.R. 2734, Subcomm. on Energy and Power, House Comm. on Energy and Commerce, 100th Cong., 2d Sess. 192 (1988) (stating that the Association of Oil Pipelines reported there were "over 138" oil pipelines in service).
22. FERC evaluates market power on a pipeline-by-pipeline, area-by-area basis. Buckeye Pipeline reportedly spent $5,000,000 and five years to convince the FERC it was entitled to light-handed regulation. See Lynn Garner, Oil Pipeline Deregulation Faces Batters, Oil DAILY, June 14, 1991, at 1.
determines what regulatory structure will maximize consumer surplus and best promotes the efficient utilization of resources; in other words, determines whether cost-of-service regulation or light-handed regulation will yield the greater net benefit to society.

The Commission's current regulatory scheme is both an anchor and an anachronism in the current environment. This scheme inhibits pricing that maximizes consumer surplus and creates economically irrational investment incentives that burden both pipelines and consumers. Moreover, the notion that artificially restraining pipeline rates through regulation will result in consumers paying less for gasoline at the pump is quixotic. The market price of refined petroleum products is virtually unaffected by variations in pipeline rates. Thus, artificially restrained pipeline rates result in windfalls to processors or distributors, with consumers still paying the market price for refined petroleum products.

This article is divided into four parts. Part I examines cost-of-service regulation from the perspective of economic incentives and regulatory goals. This examination reveals that cost-of-service (profit-level) regulation has created and continues to create an array of incorrect economic signals resulting in significant, inefficient utilization of resources. These distortions are so great that discarding cost-of-service regulation across the board is warranted even if the FERC finds that particular pipelines possess market power in individual markets. Indeed, light-handed regulation is a modest step in light of the DOJ Deregulation Report.

Part II examines the relevant economic and legal considerations in evaluating price-level regulation as a substitute for cost-of-service (profit-level) regulation. The economic evaluation shows that price-level regulation creates unambiguous incentives to minimize costs and to price services in an economically rational manner. The legal evaluation shows that the Commission possesses the authority to substitute price-level regulation for cost-of-service regulation. Specifically, the Commission can adopt a price-level regulation scheme which gives pipelines the incentive to transition to market-level rates.

Part III outlines a price-level regulatory regime designed to achieve market-based rates and, at the same time protect against possible monopoly pricing in any insular pockets where competition alone might not discipline price adjustments. The proposed plan is structured to capture the benefits of competitive pricing and provide a series of constraints that safeguard shippers against "unjust and unreasonable" rates. The proposed plan, if adopted, would reduce the need for the massive bureaucracy which exists today at the agency level and within the individual pipeline companies to accommodate regulation.


25. Id.

26. Id.

27. See supra note 1.
Part IV discusses several procedural matters relating to implementing price-level regulation. The principal conclusion is that a pipeline's existing rates should be its initial price-level rates. This part also discusses the standards for assessing whether a rate complaint by a shipper states a cause of action under price-level regulation.

I. Cost-of-Service (Profit-Level) Regulation of Pipelines in Perspective

The common carrier concept evolved out of a societal need to regulate essential services provided by a business uniquely "affected with a public interest." Although monopoly power was not initially the touchstone justifying rate regulation, the common carrier concept evolved legislatively to include companies imbued with the public interest that exhibit significant economies of scale. Railroads, pipelines, electric companies, and telephone companies have high capital investment to variable cost ratios, thus indicating the existence of significant scale economies.

The twin attributes of capital-intensity and significant scale economies meant that, absent governmental intervention, only one firm in the market would survive. The largest firm had the lowest cost per unit and the incentive to produce the total output demanded by consumers. The fear was not of monopoly per se — sole source provision of the service would be most efficient from a cost-per-unit perspective and, thus, would allow for the largest consumer surplus. Rather, the fear was that the surviving firm would restrict output in order to increase profits. As a result, resources would be misallocated as the demand of all buyers willing to pay the marginal cost of the service was not satisfied.

The nation's regulatory statutes thus were designed to preclude carriers from restricting output to capture monopoly profits. The objective was to replicate competitive results in terms of prices, resource utilization, and efficiencies. As

28. LORD HALE, DE PORTIBUS MARIS 78 (Hargrave Law Tracts No. 1, 1776) (written prior to 1676), quoted in Munn v. Illinois, 94 U.S. 113, 125-16 (1876).

29. At common law, the basis for classification of an entity as a "common carrier" was whether a particular service was sufficiently "affected with a public interest as to justify . . . regulation of its rates." Edward A. Adler, Business Jurisprudence, 28 HARV. L. Rev. 135, 144 (1915) (citation omitted); Martin T. Farris, The Case Against Deregulation in Transportation, Power, and Communications, 45 ICC Prac. J. 306, 307-12, 317 (1978). As Farris points out: "Innkeepers, millers, bakers, hackmen, etc., were not monopolies nor were they to be regulated because of their economic form. Rather, their services were essential to society — and that was the cause of their regulation." Id. at 311; see also Adler, supra, at 148-49.

Munn v. Illinois, 94 U.S. 113 (1876), the seminal decision in this country, did not establish monopoly power as the basis for regulation. Subsequent Supreme Court decisions "denuded" Munn of the "limiting element" (namely, "to justify regulation of a business the business must have a monopolistic character.") which lower courts and various commissions had read into the Munn decision. German Alliance Ins. Co. v. Lewis, 233 U.S. 389, 410 (1914); see also Nebbia v. New York, 291 U.S. 502, 534 (1934) (observing that monopolistic characteristics are not sole factor in decision to regulate); Budd v. New York, 143 U.S. 517 (1892).

30. See, e.g., NATIONAL ASS'N OF R.R. & UTILS. COM'MRS, PROCEEDINGS OF FIFTY-THIRD ANNUAL CONVENTION 369 (1942) (from the report of the Committee on the Progress in Public Utility Regulation) ("The purpose of [rate of return regulation] . . . is to stimulate and substitute the effects of competition and give the consumer the benefits which would be derived from a system of competition.").
Judge Leventhal observed, "rate regulation . . . is intended to achieve the results which under 'normal' conditions would have been available with free, fair and normal competition."\(^3\) In that sense, the regulatory statutes parallel the objective of the antitrust laws: "[T]he basic goal of direct governmental regulation through administrative bodies and the goal of indirect governmental regulation in the form of antitrust law is the same — to achieve the most efficient allocation of resources possible."\(^4\)

Recent studies illustrate how traditional cost-of-service regulation has failed those objectives by a wide margin.\(^5\) The documented deficiencies of cost-of-service regulation fall into three broad categories:

**Perverse Investment Incentives:** Competition creates the incentive for an entity to reduce costs. In contrast, cost-of-service regulation can create the incentive to inflate investment costs (the Averch-Johnson effect\(^6\)) and offers little penalty for excessive operating cost levels (the X-Inefficiency effect\(^7\)). Under cost-of-service regulation, the carrier can increase dollar earnings by increasing its investment base and increase its revenues by increasing its total costs. Moreover, cost-of-service regulation fails to reward a carrier for providing service more efficiently as it fails to distinguish between earnings attributable to improved utilization of resources and those attributable to the exercise of monopoly power. As Professor Kahn pointed out:

> Th[e] negative character of a regulatory process that concentrates mainly on the rate of return on aggregate company investment entails several inadequacies or adverse consequences. It means that regulation as such contains no built-in mechanism for assuring efficiency . . . [T]he tendency to take away any supernormal returns [the companies] might earn as a result of improvements in efficiency, thereby diminishing their incentive to try. And if it permits them to earn only the cost of capital, it creates a situation in which any inefficiencies can simply be passed on in higher rates without injury to existing stockholders. Indeed, it creates strong incentives on the part of the companies to pad their expenses . . . .

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32. United States v. FCC, 652 F.2d 72, 88 (D.C. Cir. 1980) (en banc) (quoting Northern Natural Gas Co. v. FPC, 399 F.2d 953, 959 (D.C. Cir. 1968)).


34. See Harvey Averch & Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 *Am. Econ. Rev.* 1052 (1962). According to Averch & Johnson, carriers have an incentive to adopt inefficient, capital intensive approaches to business operations when the allowed rate of return exceeds the cost of capital and to adopt inefficient, labor intensive approaches when the cost of capital exceeds the allowed rate of return. Id. at 1054.


36. 2 ALFRED E. KAHN, THE ECONOMICS OF REGULATION 48 (1971); see also THOMAS K. McCRAW, PROPHETS OF REGULATION 13 (1984) (stating that one problem with the 10% profit limitation was that "[i]f a corporation earns a 10 percent rate of return on its capital by doing a certain amount of
Inefficient Pricing Incentives: Economics teaches that consumer surplus is maximized by pricing services on a marginal cost basis. Cost-of-service regulation typically sets prices based on average total costs which only in the rarest of happenstances equal marginal costs. (If average costs are greater than marginal costs, as is true for pipelines, and prices are set to equal marginal costs, the firm will be unable to recover its costs without a subsidy. Furthermore, as most pipelines are multiproduct firms, average costs are not definable in any economically rational way.) Those parenthetical points aside, even the average total costs developed by regulators are generally distorted and bear little relationship to a carrier's actual average costs. For example, depreciation rates historically have only weakly reflected the true economic lifetimes of the carrier's assets and, therefore, have created enormous distortions in both expenses and rate bases used to "calculate" average costs. In addition, the time delays built into the regulatory process inhibit adjusting prices as relevant costs change.

Inefficient Deployment of Resources: Regulation itself imposes enormous costs — costs which the Department of Justice concluded far outweigh the perceived societal benefits attributable to cost-of-service regulation. The costs of regulation are both direct (commission and commission staff, plus the "outside" lawyers, accountants, engineers, and economists employed by both the pipelines and protesters) and indirect (the losses occasioned by perverse incentives and economically inefficient pricing).

A. Perverse Economic Incentives

The strength claimed for cost-of-service regulation is also its Achilles' heel. Up front profit constraints, expressed as a percentage of earnings allowed on investment, do not deter the carrier from increasing its absolute earnings by increasing investment. In fact, a regulatory commission cannot induce the proper investment incentives regardless of whether it sets the carrier's return at, above, or below the carrier's cost of capital. If the Commission persistently allows a return in excess of the pipeline's cost of capital, the carrier will be tempted to over-invest, thereby increasing profits without seeking an increase in the rate of return. This is the so-called Averch-Johnson effect. In addition, the carrier has an unchecked incentive to choose an inefficiently high ratio of capital to labor.

37. See discussion infra part II.B.
38. See, e.g., Paul L. Joskow & Richard Schmalensee, Incentive Regulation for Electric Utilities, 4 YALE J. ON REG. 1, 6-7 (1986).
39. See DOJ DEREGULATION REPORT, supra note 1.
40. Quantifications of the inefficiencies established by cost-of-service regulation have been made of monopoly electric utilities subject to cost-of-service regulation in relation to such utilities in situations in which some competitive forces exist. Holding other factors constant, one such study found a unit cost differential of approximately 11%. See Walter J. Primeaux, Note, An Assessment of X-Efficiency Gained Through Competition, 59 REV. ECON. & STAT. 105, 107 (1977).
41. See Averch & Johnson, supra note 34.
On the other hand, if the Commission sets the return below the cost of capital, the carrier is discouraged from making necessary capital improvements and additions which, in turn, jeopardizes the quality of service. As the Third Circuit pointed out: "Railroad management has little incentive to reinvest [internally generated] funds . . . in continued rail use if greater returns are available elsewhere. . . . [R]etained earnings will not be invested in the company if they cannot earn a rate of return equal to the cost of capital." As a result, the pipeline will choose an inefficiently low ratio of capital to labor, thereby causing the rates charged for service to be unnecessarily high over the long run.

Even if the Commission manages to set and maintain the rate of return at the pipeline's cost of capital, the pipeline's incentive to reduce or hold down costs is ambiguous at best. The ceiling on profits and effective indifference to costs make the pipeline ambivalent about reducing costs and adopting innovations since the benefits will flow through to the ratepayer.

To be sure, the Commission has the authority to disallow inflated investments and imprudently incurred costs. But, as a practical matter, the Commission cannot prevent rate padding by micromanaging the business operations of every pipeline that it regulates. A pipeline's costs largely result from numerous, discrete decisions made daily by hundreds of company employees. Even if adequate personnel were available, the Commission would need to know as much as the pipeline knows about costs, demand conditions, and marketing and product opportunities in order to evaluate their

42. See Andrew S. Carron & Paul W. MacAvoy, The Decline of Service in the Regulated Industries (1981). A prime example is the railroad industry, which literally stopped investing and improving facilities when cost-of-service regulation persistently resulted in returns that were less than the opportunity cost of capital. Specifically, railroad management had no incentive to reinvest retained earnings in the regulated portion of their business. See e.g., Economic Report of the President Transmitted to the Congress 1986, at 163-64 (U.S. Gov't Printing Office 1986); Thomas Gale Moore, Deregulating Surface Freight Transportation, in Promoting Competition in Regulated Markets 56, 56-72 (Almarin Phillips ed., 1975) (discussing costs to economy from regulation of surface freight and transportation).


44. See, e.g., Jordan Jay Hillman & Ronald R. Braeutigam, The Potential Benefits and Problems of Price Level Regulation: A More Hopeful Perspective, 84 Nw. U. L. Rev. 695, 696 (1990) [hereinafter Hillman & Braeutigam, Hopeful Perspective] ("Beyond indifference, managers may be encouraged to seek the maximum feasible personal rewards to be derived from added expenditures — whether in the form of direct monetary benefits, enhanced public status, or a less ruffled managerial life.").

45. Regulatory lag does provide some incentive at cost control as prices remain fixed between rate cases. But, the profits are only maintained between rate cases, thus the incentive is weak. Cf. Joskow & Schmalensee, supra note 38, at 14 ("Regulatory lag partly decouples prices from costs and permits utilities to increase profits by reducing costs in the period prior to rate adjustments.").


47. See Joskow & Schmalensee, supra note 38, at 12-13.
business operations effectively. Given current budget constraints, the Commission
cannot hope to attain even a significant fraction of such knowledge.

B. Economically Dysfunctional Pricing Structures

A natural tension exists between traditional cost-of-service regulation and
competition, because cost-of-service regulation typically precludes "competitive
pricing." Indeed, Judge Posner suggests that the primary motivation behind cost-of
service regulation is the maintenance of cross-subsidy flows without regard for
efficient pricing.49

Historically, regulators employing cost-of-service regulation have set prices without
much regard to service-specific costs or have allowed regulated firms to determine
their own rate structures, subject only to an overall rate-of-return constraint. More
recently, however, regulators have used rate-of-return constraints coupled with fully
allocated costs to regulate rate structures.50 The fully-allocated-cost procedure is
fundamentally flawed and, as a consequence, results in inefficient rate structures that
impose substantial efficiency losses.51

Fully allocated costs purport to produce an average cost per unit. But, whenever
joint and common costs are present, the average cost of an individual product cannot
be rationally defined.52 Because no rational (i.e., cost-causative) basis exists to
allocate common overhead costs, any allocation of costs is arbitrary by definition.
Whatever the "logic" offered for any allocation scheme, the resulting rate structure will
inevitably depart from an efficient model.53 Moreover, under cost-of-service

48. Hillman & Braeutigam, Hopeful Perspective, supra note 44, at 696 ("While regulators may
succeed in curtailing the grossest examples of waste, they generally are incapable of developing the
knowledge and skill needed to compel the level of productive efficiency obtainable by competent
managers operating under competitive conditions. Even if they could, the public costs of providing a
second managerial tier would likely prove prohibitive.").

49. Richard A. Posner, Taxation by Regulation, 2 BELL J. ECON. 22 (1971); see also Joskow &
Schmalensee, supra note 38, at 13; Richard J. Pierce, Jr., Price Level Regulation Based on Inflation Is
level regulation also promises to eliminate, or at least to reduce, the present tendency to base regulated
prices on economically irrelevant embedded costs and arbitrarily determined or politically manipulated
allocations of common costs.").

50. See, e.g., Henry E. Kilpatrick, Why Fully Allocated Cost Does Not Die a Natural Death, 124
PUB. UTIL. FORT. 24, 26 (1989) (observing that absent feasible plan to implement Ramsey pricing, full
cost allocation used to avoid monopolistic pricing). Under the fully allocated cost procedure, the
Commission allocates the carrier's costs and assets among its services; an overall rate of return is then
used to estimate the average cost of each individual service. Prices are set equal to these "fully allocated
costs." Id. at 24.

51. See, e.g., Pierce, supra note 49, at 667-68, 671.

52. In contrast, marginal cost remains well defined for all multi-product firms. But, as was noted
above, marginal cost cannot be readily employed within the rate of return framework. For an excellent
general discussion of cost concepts for multiproduct firms, see WILLIAM J. BAUMOL ET AL.,
CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE (1982), especially chapters 3 and
4.

53. See, e.g., Ronald R. Braeutigam, An Analysis of Fully Distributed Cost Pricing in Regulated
Industries, 11 BELL J. ECON. 182, 194-95 (1980) (describing incentives that fully distributed cost pricing
could have on regulated firm) [hereinafter Braeutigam, Analysis]; Hillman & Braeutigam, Hopeful
regulation, the carrier may have incentives to distort the allocation of costs if regulatory lag or mistaken estimates of a reasonable rate of return provide profit opportunities. 54

The presence of competition for some, but not all, portions of a pipeline's business will tend to exacerbate the perverse incentives occasioned by cost-of-service regulation. 55 To illustrate: one reason advanced for continuing with cost-of-service regulation in the presence of competition is the "need" to prevent cross-subsidy and predatory pricing. Such regulation attempts to deal with these concerns by policing the allocation of costs to individual tariffed services and by forcing the computed rates of return on all services toward equality. Neither prong of this reasoning is sustainable.

First, even in the single service context, the correct economic test for predation involves marginal (or incremental) cost, not the notion of average cost that fully allocated costs attempt to measure. And in multi-service (multi-tariff) contexts, average cost — in addition to being an irrational test for either cross-subsidy or predation — cannot be defined in an economically meaningful way. 56

Second, competition can rapidly affect the true economic lives of assets, further distorting prices based on outdated depreciation schedules. Thus, fully allocated costs as a test for cross-subsidy and predation may, in some instances, compel cross-subsidy or predation in some cases and overprotect in other instances.

In the end, the basic approach of allocating costs and assets to particular products invites the very behavior that fully-allocated-cost pricing seeks to control. The presence of competition not only makes it less likely that cost-of-service regulation will produce efficient rate structures, but it will magnify the losses from inefficient rate structures. For that reason, most economists recognize the Ramsey pricing concept, as opposed to fully allocated costs, results in more efficient resource utilization and greater consumer surplus. 57

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55. Price Level Regulation, supra note 33, at 10-11 (noting, after identifying inherent deficiencies of cost of service that "[t]hree additional failures of rate of return regulation occur where a regulated firm serving two markets, one competitive and the other a monopoly, operates under a rate of return constraint on the combined markets").


57. Ramsey pricing involves marking up services inversely to elasticities of demand. The more inelastic a service the more (relatively) common overhead costs that services will bear. See infra part II.B.
C. The Negative Economic Benefit of Cost-of-Service Regulation

The direct and indirect costs of traditional cost-of-service regulation are enormous for both the regulatory agency (and, thus, taxpayers) and the regulated firm (and, thus, customers). The direct costs of regulation include the expert staffs of lawyers, accountants, engineers, and economists. These direct costs cause a ripple effect resulting in significant indirect costs.


"The "real costs" of regulation go far beyond the consequences of regulation for the cost of doing business. Rather they include the impacts on domestic and international competition, the impacts on capacity decisions, and the consequences for long-term industrial strategies. In many industries that compete on bases other than cost, such as service, variety, or product reliability, and undue focus on costs can miss much that is important to competitive impact. Similarly, whatever value benefit/cost analysis might have as a basis for regulatory decision making, it is inherently incomplete."

The DOJ Deregulation Report concluded that the direct and indirect resources devoted to regulation exceed the tangible and intangible benefits of regulatory oil pipelines on a cost-of-service basis. But, whatever the dollar cost of regulation, a highly relevant fact is that such costs add nothing to final product value and society would benefit if they were reduced.

II. The Relevant Economic and Legal Considerations in Possible Price-Level Regulatory Regimes

A general consensus exists that a properly structured price-level regulatory scheme can eliminate or significantly ameliorate the distortions inherent in cost-of-service regulation and, at the same time, increase consumer welfare. First, price-level regulation does not impose any specified restraint on earnings level, thus eliminating any incentive the pipeline has to deploy resources in an extravagant or inefficient manner. Second, price-level regulation better accommodates rate structures that are economically efficient, thus maximizing consumer welfare. Third, price-level

60. See DOJ Deregulation Report, supra note 1, at x-xi.
61. See Price Level Regulation, supra note 33, at 37-43 ("By breaking the equation between the firm’s actual internal costs and allowed revenues, price level regulation regenerates the entire range of managerial incentives for profit maximization — subject, of course, to the constraint of maximum price levels.").
62. See Pierce, supra note 49, at 667-68.
regulation requires less manpower to regulate, thus dramatically decreasing the high administrative costs inherent in cost-of-service regulation.63

The price-level regulatory regime can achieve these objectives without violating the requirements of the Interstate Commerce Act. The courts recognize that the Commission has wide discretion in assuring that rates comport with the Act's "just and reasonable rate" standard.64

A. Price-Level Regulation Gives Pipelines an Unambiguous Incentive

To Minimize Costs

Price-level regulation is directed at what shippers care about, namely, price. It is price, not the pipeline's rate of return, that directly affects the economic welfare of shippers. A shipper would rather pay $1.00 and have the pipeline earn a 15% return, than to pay $1.25 and limit the pipeline to a 10% return. Cost-of-service regulation is aimed at limiting the pipeline to the 10% return even though the result is a $1.25 rate. That is because profit-level regulation provides no incentives for the pipeline to hold down costs.

As price-level regulation would eliminate the Commission's official interest in the pipeline's costs, it would give the pipeline an unambiguous incentive to minimize its costs, both statically and dynamically (i.e., introducing cost-saving techniques), since every cost reduction generates an additional profit.65 There is a risk to the pipeline in pursuing that additional profit — investments aimed at reducing costs or generating additional revenues may prove unsuccessful. Under price-level regulation the resulting losses are borne by the pipeline and not the consumer, just as the pipeline would receive the benefit of successful investments. From the regulator's perspective, price-level regulation eliminates the near-impossible (but, in any event, time-consuming) task of second guessing a pipeline's investment and operating cost decisions — tasks inherent in cost-of-service regulation.

Unlike cost-of-service regulation, price-level regulation does not conflict with the fundamental consumer welfare-enhancing motivations created by competitive forces. Stated differently, the economic basis for a pipeline's decisions under incentive regulation is precisely the same as for a fully competitive firm. Once incentive regulation is introduced, more and more efficiencies will gradually be introduced into a pipeline's operations, thereby lowering the pipeline's overall costs. The decrease in costs represents a net benefit to the nation's economy, since the same output is being produced at less cost. Accordingly, incentive regulation, right from the start, would

63. See Price Level Regulation, supra note 33, at 65-66.
64. See infra part II.C.
65. To the extent regulatory lag exists in a cost-of-service regime, cost reductions generate temporary profit increases for carriers. However, the elevated return will generally cause the regulator to take steps to reduce prices to lower the carrier's return level. The classical economist would point out that this mirrors what happens in competitive markets: The innovative firm makes an "above normal" profit until the firm's competitors implement the same cost-saving innovations. Thus, the classical economist would argue that regulatory lag permits the same short-term, elevated profit level that exists in competitive markets.
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sharply reduce the tendency of carriers to engage in the types of behavior labelled as the Averch-Johnson effect and the X-Inefficiency effect.

Obviously, then, if price-level regulation is to constitute true regulatory reform, it must allow prices to adapt to market influences and create incentives and opportunities to behave in an economically efficient manner. Ultimately, shippers will benefit in the form of prices that are lower and economically rational.

B. Price-Level Regulation Can Promote Economically Efficient Rate Structures and, Concurrently, Assure That Rates Satisfy the Just and Reasonable Standard

In theory, competition tends to drive prices to marginal costs. In the regulatory context, marginal cost pricing requires those ratepayers which impose the costs on the system to bear those costs. The result is price signals that tend to discourage inefficient use of resources. In other words, an economically efficient rate structure influences ratepayers to adjust their consumption and patterns to achieve the greatest consumer welfare.

GRAPH 1

Under perfect competition, competition will increase output until the price equals the cost of producing the last unit ($Q_c = P_c$ at intersection $A$). This competitive paradigm must be augmented in capital-intensive situations where, due to economies of scale and scope, marginal costs tend to decrease with each added unit. Thus, except at the point where marginal costs (MC) equal average total costs (ATC), a seeming disequilibrium occurs. If marginal cost is less than average total cost, the carrier cannot recover its fixed investment and other "sunk" costs if rates equal marginal costs (that is, the demand at price $P_c$ will not cover average total cost — point $B$ on Graph 1). That, in turn, will discourage additional investment. Consequently, the economic ideal for capital intensive services is to set the price
at the point where marginal costs and average total costs intersect (intersection $C$ on Graph 1). However, where significant scale economies exist, marginal costs and average total costs will not intersect:

In the pipeline industry, the marginal cost of adding an additional unit once shipments are at capacity may shoot the marginal cost line up beyond the average total cost line as additional capacity can only be obtained by adding an additional pipe (MC' and ATC').

The economically efficient solution — that is, the solution that minimizes the loss of consumer surplus — is to allow the firm's prices to depart from marginal costs in inverse relation to elasticity of demand — "Ramsey pricing." To be more specific: If "monopoly" services are interspersed with more competitive (i.e., price-elastic) services, the greatest efficiencies and lowest overall costs require markups above the marginal costs inversely proportional to the elasticities of demand for the several services. By marking up services inversely to service elasticities, the firm

66. Regulation seeks to increase output from $Q_m$ (monopoly output) to $Q_r$ (regulated output) even though the economic ideal output is $Q_c$ (competitive output).

minimizes the consequential inefficient discouragement of consumption. Conversely, when all rates for services are increased equally, efficient consumption is discouraged, thereby unnecessarily shrinking consumer surplus to less than the feasible optimum level.\textsuperscript{68} The lawfulness of such differential pricing, particularly in a regulated environment where some services are competitive, is well established.\textsuperscript{69}

As Judge Williams recently explained in \textit{Burlington Northern Railroad Co. v. ICC}:\textsuperscript{70}

Ramsey pricing was designed for cases where marginal cost is below average cost. Where that is true, a regulated firm forced to sell at marginal cost cannot recoup its total costs. Under Ramsey pricing, the regulator allows firms to charge each user a premium over marginal cost in inverse proportion to the elasticity of the user's demand. Because the highest charges fall on the most inelastic demanders, the impact on total usage is minimized. Thus, [Ramsey pricing] reconcile[s] the railroad's need for revenue to cover total costs with the least possible distortion of demand (i.e., railroad usage would approximate as nearly as possible the level that would prevail under perfect competition).\textsuperscript{71}

\textbf{C. The ICA's Provisions Accommodate Light-handed Regulation, Including Reliance on Market Factors}

The phrase "just and reasonable rates" has "no intrinsic meaning applicable alike to all situations"\textsuperscript{72} and, therefore, does not require "rigid" adherence to a "cost-based determination of rates."\textsuperscript{73} Over the years, courts have held that the joints of the "just and reasonable" requirement are sufficiently flexible to accommodate rates designed to provide non-cost incentives to carriers,\textsuperscript{74} to reflect the value of a

\textsuperscript{68} Although all pricing strategies that depart from marginal costs result in economic efficiency losses, the magnitude of these losses differs, as does the impact on consumers' surplus. \textit{See} Brunetigam, \textit{Analysis}, supra note 53.

\textsuperscript{69} \textit{See}, e.g., Consolidated Rail Corp. v. United States, 812 F.2d 1444, 1454 (3d Cir. 1987) (affirming ICC pricing plan "rely[ing] primarily on market forces, whereby services may be priced above their attributable costs according to observable market demand . . ."); Associated Gas Distrib. v. FERC, 824 F.2d 981, 1010-12 (D.C. Cir. 1987) (stating that judicial acceptance of price differentials is long standing), \textit{cert. denied}, 485 U.S. 1006 (1988); Houston Lighting & Power Co. v. United States, 606 F.2d 1131, 1145 (D.C. Cir. 1979) (finding rate determination in various proceedings just and reasonable), \textit{cert. denied}, 444 U.S. 1073 (1980).

\textsuperscript{70} 985 F.2d 389 (D.C. Cir. 1993).

\textsuperscript{71} Id. at 396.


\textsuperscript{73} Mobil Oil Corp. v. FPC, 417 U.S. 283, 308 (1974); Alabama Great S. R.R. v. United States, 340 U.S. 216, 223 n.4 (1951) ("[T]his Court [has] consistently rejected any thought that costs should be the controlling factor in rate making.").

\textsuperscript{74} \textit{See}, e.g., \textit{In re} Permian Basin Area Rate Cases, 390 U.S. 747, 798 (1968) (approving two-tier rate structure with higher rates designed to provide incentives to producers to explore for natural gas); American Pub. Gas Ass'n v. FPC, 567 F.2d 1016, 1056 (D.C. Cir. 1977) (holding that an agency must
service rather than its cost, to reflect competitive market factors, and to advance non-cost goals such as ubiquitously affordable prices for service. All of these represent departures from the notion that rates must equal physical costs to be just and reasonable.

In Houston Lighting & Power Co. v. United States, Judge Leventhal explained why departures from "rates must equal costs" may be consistent with the statutory standards that require just, reasonable, and nondiscriminatory rates:

The Commission concluded that [the Interstate Commerce Act's] command permits some rates to be set at a level exceeding fully allocated costs in order to compensate for those rates which must be set at less than fully allocated costs to meet competition . . . . This was neither arbitrary nor forbidden by the Act. It is pertinent to the objective of providing an adequate overall level of earnings. If traffic with a high value of service is viewed in isolation it bears a heavy burden. Yet all shippers ultimately benefit when the rail carriers are able to generate revenues needed for survival.

Not only does the Commission have considerable discretion in defining what constitutes a "just and reasonable" rate, it possesses still broader discretion in the "choice of methods" of enforcing that requirement. The D.C. Circuit, in affirming


75. Associated Gas Distrib. v. FERC, 824 F.2d 981, 1010-11 (D.C. Cir. 1987) (recognizing that "value-of-service" ratemaking (i.e., rates varying on the basis of differing demand characteristics) has an established place in rate regulation).

76. See, e.g., Consolidated Rail Corp. v. United States, 812 F.2d 1444, 1454 (3d Cir. 1987) (affirming ICC pricing plan "rely[ing] primarily on market forces); Houston Lighting & Power Co. v. United States, 606 F.2d 1131, 1148 (D.C. Cir. 1979) (holding that rates which exceed fully distributed costs are "neither arbitrary nor forbidden by the Act"), cert. denied, 444 U.S. 1073 (1980).

77. NARUC v. FCC, 737 F.2d 1095 (D.C. Cir. 1984), cert. denied, 469 U.S. 1227 (1985). In NARUC, the court rejected the notion that all rates must cover costs and provide no more than a reasonable return. After noting that local charges do not cover the cost of local service and that heavy toll users subsidize that deficiency, id. at 1104-05, the court rejected arguments that such a scheme was contrary to the Act's just and reasonable standard, id. at 1111-15.

78. 606 F.2d 1131 (D.C. Cir. 1979), cert. denied, 444 U.S. 1073 (1980).

79. Id. at 1148. History teaches that when railroads were caught in a similar squeeze, the result was bankruptcy and deterioration in service. See Herbert Hovenkamp, Regulatory Conflict in the Gilded Age: Federalism and the Railroad Problem, 97 YALE L.J. 1017, 1053 (1988). The lesson of the railroads is that where a capital-intensive carrier has both "monopoly" and "competitive" services, regulation must recognize that "rates under competition are a function of variable, marginal or operating costs, not of fixed costs." Id. So long as the rates more than cover variable costs, no matter how little, the monopoly ratepayer is better off because the excess over variable cost reduces fixed costs that would otherwise be borne by the monopoly service. Id.

If the common costs are not covered, then the carrier becomes unprofitable and, eventually, cannot attract the investment needed to meet its service obligations. Price-level regulation precludes (or at least seriously inhibits) moving to a rational price structure as a pipeline's services become more competitive. The real problem of price-level regulation is not high rates for "monopoly" segments, but the potential disintegration of the financial viability of pipelines faced with stiffer and stiffer competition.

80. See, e.g., MCI Telecommunications Corp. v. FCC, 675 F.2d 408, 413 (D.C. Cir. 1982) ("[T]he
an ICC decision to detariff contract carrier services, pointed out that regulatory agencies "are neither required nor supposed to regulate the present and the future within the inflexible limits of yesterday."\textsuperscript{81}

The notion that the Commission is affirmatively obliged to measure every rate against a rigid "just and reasonable" standard is legally mistaken. The Act contemplates carrier-initiated rates, not a series of commission-prescribed just and reasonable rates. The Commission can decide not to investigate any rates absent a complaint.\textsuperscript{82} Indeed, courts have affirmed agency decisions not to pursue a rate investigation despite a preliminary determination that the carrier-initiated rate is unlawful\textsuperscript{83} and to abandon an investigation after completing hearings on the reasonableness of rates.\textsuperscript{84} The "check" on the Commission is that a customer may "require the Commission to investigate the lawfulness of any rate at any time — and may secure judicial review of any decision not to" undertake an investigation.\textsuperscript{85}

\textbf{III. A Regulatory Paradigm — A Structure That Provides Correct Incentives and Assures Just and Reasonable Rates}

Competition constrains the prices a firm can charge for individual services, thereby indirectly imposing an earnings constraint on the firm. The price-level regulation plan outlined below is designed to do what the competitive market does — restrain price increases, thereby constraining the firm's profits.

The plan contains three mechanisms to assure rates are just and reasonable, that is, are like market-based rates. The first mechanism restrains each pipeline's aggregate increases in prices to the increase in the prior year's Consumer Price Index (CPI). The second mechanism allows percentage adjustments in individual rates within specified limits. To further discipline individual rate adjustments, the third feature of the plan is a spare capacity auction mechanism that will virtually preclude monopoly pricing of those segments in which a pipeline might possess significant market power.

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\textsuperscript{81} Central & S. Motor Freight Tariff Ass'n v. United States, 757 F.2d 301, 320 n.118 (D.C. Cir.) (quoting American Trucking Ass'n v. Atchison, T. & S. F. Ry., 387 U.S. 397, 416 (1967)), cert. denied, 474 U.S. 1019 (1985)); see also Washington Utils. & Transp. Comm'n v. FCC, 513 F.2d 1142, 1157 (9th Cir.) ("Regulatory practices and policies that will serve the 'public interest' today may be quite different from those that were adequate to that purpose in 1910, 1927, or 1934 . . . ."), cert. denied, 423 U.S. 836 (1975).


\textsuperscript{83} Arctic Slope Regional Corp. v. FERC, 832 F.2d 158, 163 (D.C. Cir. 1987), cert. denied, 488 U.S. 868 (1988).


\textsuperscript{85} Southern Ry., 442 U.S. at 454; see also Central & S. Motor Freight Tariff Ass'n v. United States, 757 F.2d 301, 323 (D.C. Cir.) (commenting on "commission's continuing authority to investigate and suspend unlawful rates"), cert. denied, 474 U.S. 1019 (1983).
Restringing Overall Increases in Prices: A firm inevitably must increase prices to cover cost increases. In competitive markets each firm has an incentive to hold down its particular costs, thus permitting it to boost its profit margin compared to its competitors. As each individual firm in a competitive market has that same incentive, total costs as reflected in various inflation indices account for each producer's improved efficiencies, that is, productivity gains.

Pipelines purchase their inputs of labor, capital, and materials in competitive markets. Preliminary evidence being developed by the pipelines indicate that pipeline productivity lags the economy as a whole. Thus, limiting increases to the rise in a general cost index effectively imposes a productivity incentive on pipelines. Three well-known, readily available indices measure changes in costs.66

The Consumer Price Index (CPI), computed by the Bureau of Labor Statistics, measures changes in retail costs. The CPI is the most widely known index of output price inflation in the U.S. economy and is available without a significant time lag.

The Implicit Price Deflator for the Gross National Product (GNP deflator) represents changes in the prices of both consumer and capital goods, i.e., total output in the U.S. economy. Historically, the GNP deflator and the CPI have grown at virtually indistinguishable rates.

The Producer Price Index (PPI) does not measure the purchasing power of money in general, but rather the prices of goods purchased by businesses.

Using the CPI appears to be more consistent with the price-level regulation than alternative measures. The focus of price-level regulation is on how the prices of the regulated services move with other prices, and the CPI accomplishes this objective. The GNP deflator is not available as timely as the CPI. The PPI changes the focus back to cost, which should be avoided, and does not make the break from current cost-based regulation. As such, it is somewhat inconsistent and opens the door to injecting other inappropriate cost measures.67

Assuming a pipeline's current rates equal its current (opportunity) costs, then those rates in the aggregate should increase in relation to the cost increases incurred by pipelines generally. For example, if a pipeline's average rate is $1.00 and the cost index advances 5%, the pipeline (everything being equal) would be entitled to an average rate of $1.05.

Some costs changes, however, are not within the pipeline's control and are exogenous to the CPI (or whatever index is selected).68 Exogenous costs are costs beyond a pipeline's control and are not the type of cost factored into the CPI calculation or, if factored into the CPI, have a unique, disproportionate impact on pipelines. Such cost changes include those due to changes in laws, regulations, or rules or due to other administrative, legislative, or judicial rulings. Such exogenous costs include, for example, changes in the tax laws or changes in depreciation rates and environmental costs (i.e., cleanup costs). Thus, the price level must be adjusted

66. See Price Level Regulation, supra note 33, at 50-51.
67. Of course none of these precisely measures the cost changes of a particular pipeline. See Joskow & Schmalensee, supra note 38, at 33.
68. Price Level Regulation, supra note 33, at 53-55.
for such costs in order to assure that the price-level formula does not lead to unreasonably high or unreasonably low rates.

Restraining Percentage Increases In Individual Rates: Within the overall constraint, pipelines need the flexibility to adjust individual rates to reflect economic realities. Assuming a particular pipeline faces more intense competition on some segments of its system than on others, it might tend to hold prices on some segments constant and recover the permitted overall increase (to the extent possible) on less competitive segments. Within limits, that tendency approaches the correct economic result.

Where an overall price adjustment constraint exists, a potential for abuse may exist if no restraint is placed on individual price adjustments. To make certain no such abuse occurs, a restraint should be imposed on individual price changes. Specifically, the maximum permitted adjustment in individual rates cannot be X% more than the least adjusted rate. For example: If X% is 10% and the pipeline elects not to adjust one rate or decreases even one rate, it cannot adjust any other rate more than 10% — even if that means the new revenue level is less than the permitted revenue level calculated in the first step. If the pipeline increases each rate at least 2%, then it could adjust any other rate as much as 12% so long as it did not exceed the overall revenue limitation.

Spare Capacity Auction Mechanism: To further assure competitive and competitive-like pressures on rates, the plan requires pipelines to implement a "spare capacity" service. That service envisions auctioning off spare capacity at a price that is not less than the pipeline's short-term marginal costs.

The spare capacity rate will help discipline the pricing of the normal service rate. At the same time, the availability of the spare capacity rate will promote the efficient utilization of resources. It will capture business that equals or exceeds marginal cost but is not attracted by the pipeline at the "normal" tariff rate. The spare capacity rate benefits pipelines because they have the potential of recovering and retaining additional net revenues (that is, gross revenues minus relevant costs).

A. A Formula for Calculating Each Pipeline's Overall Revenue Constraint

A pipeline faces two types of cost changes. The first are normal increases occasioned by inflation and other general price-level changes. Those cost changes are reflected in cost indices such as the CPI, GNP deflator, and PPI. The second are exogenous cost changes, that is, changes not reflected in various inflation

89. The fundamental shortcoming of price-level regulation is the danger that the values for adjusting price will be set at inappropriate levels. Where the figure chosen is excessively low, it will be the pipeline that will suffer initially, but as always, in the long run the shipper will bear the cost. In this case, the cost would result from inadequate investment and foregone innovation opportunities. All of these add up to higher prices than otherwise would have prevailed. Excessively low price-level adjustment factors probably pose the greater danger, both because there is no simple method for their prevention and because their consequences can be so serious.

90. See supra notes 67-69 and accompanying text.

91. See supra notes 86-87 and accompanying text.
indices. Both need to be taken into account in calculating an appropriate restraint on a pipeline's right to adjust aggregate price levels.

The following formula sets out the relevant inputs for adjusting a pipeline's revenues annually to reflect both normal cost measures and exogenous cost changes as well as changes in demand.

\[
RLI_t = (Q_{t-1} + \Delta Q_{t-1}) \times AP_{t-1} \times \left(\frac{CPI_t}{CPI_{t-1}} + Exog\right)
\]

- \(RLI_t\) = Revenue Level Index for current year
- \(Q_{t-1}\) = Prior year demand expressed in barrels of oil transported
- \(AP_{t-1}\) = Prior year's weighted-average, permitted rate per barrel (base year revenues/base year units)
- \(CPI_t\) = Consumer Price Index for current year
- \(CPI_{t-1}\) = Consumer Price Index for prior year
- \(Exog\) = Value of exogenous adjustments as percentage of \(RLI_{t-1}\)

Once the formula is agreed to, the determination of the formula inputs is straightforward.

The Revenue Level Index (RLI) is the total revenues realized by the pipeline from tariffed services. The initial base year is the realized revenue in the year prior to implementation of the price-level plan. \(RLI_t\) reflects the total revenues allowed in the current year and the maximum revenues that adjusted rates may yield in the aggregate. Assume a pipeline has four tariffed rates:

<table>
<thead>
<tr>
<th>Rate</th>
<th>Units</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>20</td>
<td>$100</td>
</tr>
<tr>
<td>B</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>C</td>
<td>20</td>
<td>300</td>
</tr>
<tr>
<td>D</td>
<td>20</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td>80</td>
<td>$1000</td>
</tr>
</tbody>
</table>

In this example, the pipeline's base year would be $1000.

Now assume the pipeline realized one additional unit in each rate group, the CPI advanced 5%, and exogenous adjustments were $10 or 1% of the base year revenues. Using those assumptions, the pipeline would be permitted to adjust its rates to realize $1113:

92. See supra note 88 and accompanying text.
93. Changes in demand need to be reflected. See PRICE LEVEL REGULATION, supra note 33, at 55-59; Pierce, supra note 49, at 674.
\[ RLI_t = (Q_{t-1} + \Delta Q_{t-1}) \times AP_{t-1} \times \left( \frac{CPI_t}{CPI_{t-1}} + \text{Exog} \right) \]

\[ = (80 + 4) \times \frac{1000}{80} \times \left( \frac{105}{100} + .01 \right) \]

\[ = 1113 \]

In the next year, \( RLI_t \) becomes the new base year. Thus, if the pipeline experienced no changes in demand, the CPI increased 3%, and exogenous costs did not change, the pipeline's allowed revenues (the new \( RLI_t \)) would be $1146:

\[ RLI_t = (84 + 0) \times \frac{1113}{84} \times \left( \frac{108}{105} + .00 \right) \]

\[ = 1146 \]

After the first year, the adjusted revenues (\( RLI_t \)) must be based on the prior year's calculated \( RLI_t \) not the realized revenue. In a particular year, competitive pressures may not allow a pipeline to increase its rates to achieve the permitted revenue level. Over the long run, however, competitors' prices will tend to increase at the same average rate as the CPI. Thus, the relevant factor needs to be the calculated revenues, not realized revenues. Adjustments to the calculated \( RLI_t \) need to be made in two instances: (1) if a pipeline abandons a tariffed service or adds a tariffed service, and (2) if the pipeline places a new pipeline or pipeline segment in service.

If a pipeline segment is abandoned during the year, the units for the tariff(s) covering that pipeline segment should be reflected at zero (that is, \( \Delta Q \) for that rate would reflect a 100% decrease in the prior year's units even though the pipeline may have been abandoned in the last half of the year). As to new services, the pipeline should be permitted to set the rate for a new service. Thereafter, the rate and units would be incorporated into the formula after the rate has been in effect for a full twelve-month period.

B. A Formula for Calculating the Restraints on Upward Adjustment in Individual Tariffed Rates

After determining the permitted overall revenue adjustment, the plan envisions restraints on the adjustments to individual prices to realize the additional revenue.

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94. The pipeline, of course, may not wish to file tariffs annually or even within a several year period. When it does file, the pipeline would simply update the \( RLI \) to the prior year to show the prior year's calculated \( RLI \).
Essentially, the maximum that an individual rate can be adjusted is (a) $X\%$ if at least one tariff rate is not adjusted or is decreased, or (b) $X\%$ more than the lowest percentage increase of any rate if all the pipeline's tariff rates are increased. In the next year, the maximum permitted increase would be $X\% - 1\%$ if the rate had been increased $X\%$ in the prior year. In the following year, the maximum permitted increase would be $X\% - 2\%$ if the rate had been increased $X\% + (X\% - 1\%)$ over the prior two years. In no event would (a) the maximum permitted increase be less than $Y\%$ plus the lowest percentage increase in a rate, or (b) would the annual increase in any rate exceed $X\%$.

Assume $X\%$ is 10%, $Y\%$ is 5%, and at least one rate was not increased. An individual rate could not be increased more than 10% or the cumulative increases exceed $X\%_1 + (X\% - 1\%)_1 + (X\% - 2\%)_2$, etc. The maximum differentials would be:

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>9%</td>
<td>19%</td>
</tr>
<tr>
<td>3</td>
<td>8%</td>
<td>27%</td>
</tr>
<tr>
<td>4</td>
<td>7%</td>
<td>34%</td>
</tr>
<tr>
<td>5</td>
<td>6%</td>
<td>40%</td>
</tr>
<tr>
<td>6</td>
<td>5%</td>
<td>45%</td>
</tr>
<tr>
<td>7</td>
<td>5%</td>
<td>50%</td>
</tr>
</tbody>
</table>

This permits the pipeline to transition toward an economically rational rate structure and, at the same time, to restrain monopoly pricing where pockets of market power might exist.

Returning to the RLI example, again assume base year revenues of $1000, a one unit increase in each rate category and the permitted increase is 6%. Further assume that the pipeline concludes that it can increase Rate D only 2% for competitive reasons. That means no other rate can be increased more than 12%. And, given the limitations on the over increase\(^6\) only one rate could be increased as much as 12%.

Thus, within those constraints, a pipeline might adopt the following rate structure:

<table>
<thead>
<tr>
<th>Units</th>
<th>Rate</th>
<th>Revenue</th>
<th>% Inc.</th>
<th>Rate</th>
<th>Revenue</th>
<th>% Inc.</th>
<th>Rate</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate A</td>
<td>21</td>
<td>5</td>
<td>105</td>
<td>12%</td>
<td>5.60</td>
<td>117.60</td>
<td>12%</td>
<td>5.60</td>
</tr>
<tr>
<td>Rate B</td>
<td>21</td>
<td>10</td>
<td>210</td>
<td>12%</td>
<td>11.20</td>
<td>235.20</td>
<td>9.5%</td>
<td>10.95</td>
</tr>
<tr>
<td>Rate C</td>
<td>21</td>
<td>15</td>
<td>315</td>
<td>12%</td>
<td>16.80</td>
<td>352.80</td>
<td>7%</td>
<td>16.05</td>
</tr>
<tr>
<td>Rate D</td>
<td>21</td>
<td>20</td>
<td>410</td>
<td>2%</td>
<td>20.40</td>
<td>428.40</td>
<td>2%</td>
<td>20.40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$1050</td>
<td></td>
<td></td>
<td>$1134.00</td>
<td>$1113.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the inflation rate were 3% in the next year and Rate D were not increased, the maximum permitted increase in the $5.60 rate would be 9% as it was increased the maximum 10% the same year.

95. See supra part III.A.
Assume that the units remained the same except for Rate D which suffered a 2-unit decrease; therefore, the pipeline decides not to increase the Rate D tariff. The new revenue level would be $1119:

\[ RLI_t = (Q_{t-1} + \Delta Q_{t-1}) \times AP_{t-1} \times \left( \frac{CPI_t}{CPI_{t-1}} + Exog \right) \]

\[ = [84 + (-2)] \times \frac{1113 - (2 \times 13.25)}{82} \times \left( \frac{108}{105} + .00 \right) \]

\[ = 1119 \]

Given the restraints on price-level increases, the pipeline could not increase its rates to yield the permitted revenue level of $1,119.\textsuperscript{96} Specifically, if the pipeline were to hold the Rate D tariff at $20.40, the price-level restraints (the 9% in Year 2 and the cumulative restraint) would preclude rate adjustments sufficient to yield the permitted RLI.

<table>
<thead>
<tr>
<th>Adj. Base Year</th>
<th>Permitted Increase</th>
<th>Inc. with Revenue Restraint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
<td>Rate</td>
<td>Revenue</td>
</tr>
<tr>
<td>Rate A</td>
<td>21</td>
<td>$5.60</td>
</tr>
<tr>
<td>Rate B</td>
<td>21</td>
<td>$10.95</td>
</tr>
<tr>
<td>Rate C</td>
<td>21</td>
<td>$16.05</td>
</tr>
<tr>
<td>Rate D</td>
<td>21</td>
<td>$20.40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$1072.20</td>
</tr>
</tbody>
</table>

While the example is simplified, it illustrates the real world effect of how the combination of revenue-level and price-level restraints will benefit consumers. In terms of real dollars, consumers are no worse off if pipeline rates increase at the same rate as the CPI. But, due to the combination of the revenue-level restraints, pipeline rates in the aggregate are likely to lag the increases in the CPI, thus resulting in lower rates in real dollars.

\textit{C. A Formula for Determining the Spare Capacity (Auction) Rate}

The airlines, when they were still subject to rate regulation, discovered that they were better off filling an empty seat at a "discount" fare which exceeded their marginal costs than to fly with that seat empty. Regulated airline "discount" fares with restrictions advanced economic efficiency in three ways. First, they tended to move passengers with flexibility to off-peak travel times, thus relieving pressure on the airline to purchase additional equipment to meet peak capacity demand. Second, they attracted additional, profitable business by creating fare structures that were economically efficient; that is, pricing the most elastic demand closer to marginal

\textsuperscript{96} In Year 1, the increase was 10% or 2% less than the permitted maximum. Thus, the 10% maximum permitted increase in Year 2 would not exceed the cumulative maximum of 19%.
costs. Third, they put pressure on all carriers to structure their rates in an economically rational way.

The same rationale applies to oil pipelines which, like the airlines, are capital-intensive, cannot rapidly expand and contract capacity in small increments, and often face seasonal fluctuations. Thus, a similar "discount" rate program under price-level regulation will provide further assurance that the pipeline structures its rates in an economically rational manner, even where it possesses some market power.

The proposed spare capacity mechanism would work much along the lines as the airline discount fare program. The pipeline's "average spare capacity" for each month of the base year would be determined. The pipeline's average variable (marginal) per barrel costs for the base year for each tariff rate would be determined. After the pipeline receives its tenders for M-month, it would auction off the remaining capacity up to the average spare capacity for the month as determined in the first step. The winning bid(s) would have to exceed the pipeline's average variable (marginal) cost. A shipper electing to participate at the M-month's auction could not later decide to ship the "bid barrels" at the tariff rates in M-month. Thus, if a shipper is not willing to tender the barrels at the full tariff rate, it assumes the risk of participating at the auction.

In the following year (RLI_t), the spare capacity subject to auction would be the average of the RLI_{t-1} spare capacity (the actual spare capacity plus the spare capacity purchased at auction) and the RLI_{t-2} spare capacity.

\[ SC_t = \left( \frac{SC_{t-1} + SC_{t-2}}{2} \right) \]

- \( SC_t \) = spare capacity subject to auction in current year
- \( SC_{t-1} \) = spare capacity in prior year
- \( SC_{t-2} \) = spare capacity two years earlier

The spare capacity mechanism provides additional incentives for the pipeline to price its basic tariff rate at an economically efficient level. To the extent that the pipeline deviates from efficient pricing, it provides shippers the incentive to take their chances at the auction, thereby pressuring the "average" rate toward an economically correct level.

The revenues generated under the spare capacity auctions would not be included in the determination of the overall revenue constraint or individual price change.

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97. The bidding could be done electronically, for example, by E-mail. The pipeline would "publish" the space capacity electronically. Shippers would electronically submit their bids at a specific date and time.

98. Also, affiliates of the pipeline would be precluded from participating in the auction.
constraint. This exclusion will put additional pressure on the pipeline to structure its fixed tariff rates in an economically rational manner. Using the previous example, assume that after Rate A is increased to $5.60, one shipper decided to purchase transportation at the auction. As a result, in Year 2 the pipeline ships only 15 units at $5.60 (rather than the previous 21 units) and ships 6 units at $4.50 (the auction price). Assume that the capacity is 26 units. The pipeline could increase its $5.60 rate in Year 3 by 9% to $6.10, but would it? In Year 3, the spare capacity subject to auction will be 8 units (the average of the 5 spare capacity units in Year 1 and the 11 units in Year 2). This leaves at least 18 units (26 capacity minus 8) which must be sold at the tariff rate.

If the pipeline does not increase the units purchased under the tariff from 15 to 18, the capacity subject to auction will increase again in Year 4. The fact that more and more capacity is subject to an auction price does two things. First, it signals that the tariff rate probably requires adjustment. Second, it retards and eventually eliminates the pipeline's ability to achieve supracompetitive profits on a particular pipeline segment.

D. Proposed Considerations

The Interstate Commerce Act contemplates pipeline-initiated rates, not commission-prescribed rates. To protect consumers under this regime, the Act provides for a thirty-day notice period during which the Commission undertakes a preliminary evaluation of the rates to determine whether further investigation is warranted.99 If the Commission decides that an investigation is warranted, it may suspend the effective date of the rates for up to seven months.100

The light-handed regulation proposal is built around the Act's notice-and-suspension structure. The plan contemplates that rate changes within the guidelines will not be suspended and that they are presumptively reasonable.

Rate adjustments which exceed the guidelines may be filed, but normally would be suspended for the full statutory period and investigated.101 Consistent with the Commission's discretionary suspension power, the guidelines establish "a tentative opinion about the location of the line between the just and the unjust, the reasonable and unreasonable."102 The courts have lauded such an approach as "an intelligent and practical exercise of [the Commission's] suspension power . . ."103

For filings within the guidelines, the only supporting data required of a pipeline would be a printout showing that the revised tariff rates comply with the revenue restraints and pricing restraints. No cost of service or "top sheets" would be necessary or required.104

100. Id. § 15(7).
101. Under this regime, a rate filing that exceeds the guidelines is not protected, and normally would be suspended.
103. Id.
104. In Advanced Micro Devices v. CAB, 742 F.2d 1520, 1531 (D.C. Cir. 1984), the court upheld Civil Aeronautics Board (CAB) tariff filing and review procedures akin to those proposed here. The
For a filing outside the guidelines, the pipeline would be required to file cost-of-service data (including its direct case). If the pipeline were seeking revenues in excess of the guidelines it would have to demonstrate that rates within the guidelines would be confiscatory, that is, unjustly and unreasonably low.105 If the pipeline were seeking to adjust an individual rate outside the guidelines, but still remain within the overall revenue restraint, it would be required to submit evidence justifying that departure.106

IV. Procedures Governing Implementation of Price-Level Regulation

The Commission should implement price-level regulation using each pipeline's existing rates. This is consistent with the Energy Policy Act of 1992 which deems existing, unchallenged rates just and reasonable.107 The present reasonableness of the rates may be challenged only upon a showing of changed circumstances.108

On a going forward basis, the Commission must establish standards for judging the reasonableness of individual rates in complaint cases. If the Commission decides to substitute price-level regulation for cost-of-service regulation, the beneficial incentives will be lost if the Commission entertains complaints alleging that a rate within the price-level guidelines yields an excessive return level. If the Commission finds that such complaints state a cause of action, price-level regulation will not have replaced cost-of-service regulation, but merely encrusted another layer of regulation upon it.

To assure that the benefits of price-level regulation come to fruition, the Commission needs to specify the criteria for setting out a prima facie case in a complaint. Obviously, the Commission should entertain complaints that allege rates are unlawfully discriminatory.109 Again, differential pricing reflecting correct economic factors would not be deemed unlawful discrimination.110

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CAB in Advanced Micro Devices created a no-suspension zone for international cargo tariff filings. Id. at 1524-25. The CAB rules eliminated the requirement that carriers file cost data to justify rates within the zone, and placed upon rate opponents the burden of demonstrating "extraordinary circumstances" for suspending within-zone filings. Id. at 1533-36. The court determined that these rules were reasonable, and consistent with the CAB’s statutory obligation to ensure just, reasonable, nondiscriminatory rates. Id. at 1531-37.


106. The two most likely reasons for proposing rate increases that exceed the pricing guidelines are: (1) the increase is necessary to cover the cost of providing the service, and (2) the adjustment is necessary in light of adjustments to other rates to maintain proper rate relationships. See American Airlines, Inc. v. CAB, 495 F.2d 1010, 1019 (D.C. Cir. 1974) (“That the reasonableness of a rate may turn in part on its relationship to other rates is a principle which has long been settled.”) (quoting United States v. Northern Pac. Ry., 288 U.S. 490, 500 (1933)). Data unrelated to the reason advanced for the increase would not be required because it would simply clutter the process and unnecessarily take up valuable staff resources — all for no purpose.


108. Id. § 1803(b), 106 Stat. at 3011.


110. See supra part II.C. In economic terms, the necessity of differential pricing for oil pipelines
As to unjust and unreasonable rates, a complaint which simply alleges that a particular rate produces an excessive return on rate base or that a company's overall return is excessive would fail to state a cause of action. A contrary rule would undermine all the benefits of price-level regulation as carriers would still be subject to "rate base/rate of return" regulation via the complaint process. To show a rate was unreasonable, a complainant would have to allege and provide evidence that the rate exceeded stand-alone costs\textsuperscript{111} or was less than marginal costs. Those are the relevant economic standards, and the tests that will allow pipeline rates to move to market levels.

Conclusion

The debate needs to move away from whether or not pipelines are sufficiently competitive to be deregulated. Deregulation is unrealistic given the number of politically powerful skeptics. The FERC's "solution" is light-handed regulation — still an ambiguous concept — doled out on a case-by-case basis after interminably long proceedings costing millions of dollars. The next best solution and the one that appears realistic, is a price-level regulation regime which unlinks costs and profits from permitted price levels. The FERC has signalled the right objective: In return for greater pricing flexibility, the rate paid by shippers should (in the aggregate) be less than what they could expect to pay under traditional cost-of-service regulation. At the same time, pipelines face potential costs to satisfy environmental and safety regulations which may be disproportionate to other industries. Thus, the Commission cannot expect that pipeline rates will simply stay at about the same level in real dollars.

\textsuperscript{111} On the high side, stand-alone costs are the correct measure of unreasonableness. See Price Level Regulation, supra note 33, at 19-25, 47; Coal Rate Guidelines, Nationwide (Ex parte No. 347), 1 I.C.C.2d 520, 549 (1985) (adopting "constrained market pricing" for determining reasonableness of rail competitive coal rates), aff'd sub nom. Consolidated Rail Corp. v. United States, 812 F.2d 1444 (3d Cir. 1987).