

What Can Regulators  
Regulate?  
The Case of Cable TV

by Thomas Hazlett

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WHAT CAN REGULATORS REGULATE?  
THE CASE OF CABLE TV

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*In the 1984 Cable Communications Policy Act, cable television operators were effectively freed from rate regulation, and subsequently enjoyed monopoly franchise protection with free market pricing. In 1992, however, "re-regulation" of basic cable service rates was established in the Cable Consumer Protection and Competition Act. The argument for regulation was publicly driven by a substantial increase in basic cable rates post-deregulation, yet the efficacy of rate controls upon an industry which has substantial freedom to adjust product quality is theoretically ambiguous. Scholarly research on this issue has most often focused on whether cable operators exercise market power, an issue which does not address the underlying question concerning regulatory effectiveness: Are quality-adjusted prices lower, and outputs higher, under rate regulation? Those studies which have attempted to gauge net consumer gains from regulation have reached contradictory conclusions. This study examines simple price, quality, and output evidence to determine how deregulation, and now reregulation, have impacted consumers. It finds strong support for the view that welfare gains have not ensued from rate regulation. Still, regulators have had an impact on markets by influencing transactions costs, and thereby rearranging rent-distribution across interest groups.*

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# 1 Introduction

The effectiveness of price regulation in constraining market power has been a subject of inquiry by economists for the past three decades. Since the provocative 1962 paper by George Stigler and Claire Friedland, rate regulation of monopolies, natural and/or franchised, has seemingly acquired a new burden of proof from investigators asking, "What can regulators regulate?" In its formative years, this burden seemed a heavy one, prompting such scholars as Milton Friedman to categorically judge regulation ineffective in a dynamic world:

*When technical conditions make a monopoly the natural outcome of competitive market forces, there are only three alternatives that seem available: private monopoly, public monopoly, or public regulation. All three are bad so we must choose among evils. Henry Simons, observing public regulation of monopoly in the United States, found the results so distasteful that he concluded public monopoly would be a lesser evil. Walter Eucken, a noted German liberal, observing public monopoly in German railroads, found the results so distasteful that he concluded public regulation would be a lesser evil. Having learned from both, I reluctantly conclude that, if tolerable, private monopoly may be the least of the evils (Friedman 1962, p. 28).*

This skepticism over the effectiveness of regulation appeared to dominate economic research in the years following the Stigler-Friedland question (Peltzman 1989, 1993), and may have at least partially motivated deregulation in the 1970s and 1980s (Noll 1989). While the cable television industry was among those deregulated, the sector has witnessed a remarkable policy shift over the past decade, with rate controls -- lifted in the Cable Act of 1984 -- reimposed in the Cable Act of 1992.

The purpose of this paper is to examine the effect of rate regulation in cable television, focussing on how price controls have impacted consumer welfare. The traditional, textbook view -- challenged by the classic Stigler and Friedland question -- is that, in an industry where price is set above marginal cost, price ceilings may reduce monopoly price mark-ups and thereby expand output. Presumably this increased volume lowers dead-weight loss from monopolistic output restriction, and is the aim of proconsumer regulation. What the literature on economic regulation has established, however, is that imposing controls on any industry is a complicated affair, and it is proper to question whether real-world regulators can in fact achieve their announced goals.

The substantial findings of this paper's inquiry into the consumer effects of rate regulation in cable television include the following:

- Regulatory constraints have featured such large leakages as to be ineffective in suppressing quality-adjusted subscriber rates.
- The price data reveal this themselves, when examined in more than cursory fashion.
- The most dramatic evidence of the failure of rate regulation to lower rates, however, is found in the output data, which indicate that cable deregulation did not restrict output nor has reregulation expanded output.
- The strong support given to regulation by competitors to cable, broadcasters and telcos, and the vocal opposition to rate regulation expressed by programming interests, further buttress the hypothesis that rate regulation has not lowered quality-adjusted cable rates.
- These results concerning the failure of regulation are all the more striking in light of the evidence that cable operators enjoy considerable amounts of market power, price substantially above average cost, and realize excess returns.
- Regulation has been important not because of price-lowering effects (in quality-adjusted terms) but because rate regulation fundamentally impacts transactions costs for cable firms, for interest groups which are potential recipients of cross-subsidies, and for municipal regulators of franchise agreements.
- That the burden of proof suggested by the question, "What can regulators regulate?" is the appropriate framework for analysis of price controls on cable television services.

## **2 The Recent Debate Over Cable Rate Regulation**

### **2.1 The Political Debate and the Popular Press**

In the popular press and amongst congressional leaders it has been an article of faith that the deregulation of cable television rates on 29 December, 1986 unleashed a price spiral to the detriment of consumers. It was equally an article of faith that reregulation would produce

consumer benefits, provided only that regulators take the task of rate regulation seriously.<sup>1</sup> The documentation that fueled such commentary was supplied by three General Accounting Office surveys (GAO 1989, 1990, and 1991) which showed cable rates rising much more quickly than the general inflation rate during the deregulation period. Senator Daniel Inouye (D-HA), chair of the Senate Communications Subcommittee, argued for the reregulation bill that became the 1992 Cable Act (S. 12), in words that would become commonplace in the congressional debate:

*The GAO report demonstrates that S. 12 is needed now more than ever. Cable rates for the most popular basic cable tier of programming have increased 61 percent since deregulation went into effect in 1986... During the same 4 1/2-year period, the cost of consumer goods rose by only 17.9%... (Congressional Record-Senate [29 January, 1992], p. S 562).<sup>2</sup>*

If too-rapid rate increases due to cable's monopoly power was the agreed upon source of the problem, the prevailing conclusion in both the news reports and in congressional debate was that the introduction of competition into local cable markets -- while the preferred remedy for cable's monopoly pricing -- would prove viable only in the long-run. In the short- to medium-term, rate regulation would be necessary to limit cable's market power. Then-Senator Lloyd Bentsen (D-TX) explained the legislative logic thusly:

*In sum, the pending legislation is necessary to satisfy the Government's compelling obligation to protect the rights of consumers where market forces are insufficient. I would prefer not to create a new system of Federal regulations -- but, history tells us that where competition does*

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<sup>1</sup> See, e.g.: Jube Shiver, "Rising Rates Bring Cable Firms Static From Public," *Los Angeles Times* (17 March, 1989), pp. IV1, 7; Mary Lu Carnevale, "Soaring Cable-TV Prices Could Usher in Reregulation," *Wall Street Journal* (3 August, 1989), p. B1; Paul Farhi, "Reregulating Cable: A Political Response to a Wired Nation," *Washington Post* (22 January, 1992), p. A1; "To Stop the Cable Gouging," Editorial, *New York Times* (28 January, 1992), p. A20.

<sup>2</sup> The law itself contains findings implied by the GAO study:

Pursuant to the Cable Communications Policy Act of 1984, rates for cable television services have been deregulated in approximately 97 percent of all franchises since 1986... The average monthly rate has increased almost 3 times as fast as the Consumer Price Index since rate deregulation.

Cable Consumer Protection and Competition Act of 1992, § 2.

*not exist, the rights of consumers will ultimately be trampled upon. Thus, enacting this legislation is an appropriate action for Congress to take -- until effective competition takes root in the cable industry.*<sup>3</sup>

The interesting perspective evident in this discussion is that Stigler's question seems not to have permeated the mass consciousness: There is no troubling equivocation over the issue as to what, exactly, regulators *can* regulate. Indeed, the burden of proof is not upon regulation to lower prices, but upon competition to exist in the marketplace.

## **2.2 The Economic Literature**

Analytical work by economists on cable television regulation has generally taken two investigative paths: (1) a search for evidence of market power exercised by cable television systems in local video markets; (2) cross-sectional studies using data prior to 1987 to assess the efficacy of cable regulation in suppressing rates.

The market power papers generally contrast cable prices or cable system values in a way that sheds light on some key variable, but all fail to isolate the consumer impact of rate regulation. For instance, Wildman & Dertouzos (1990) regress cable rates against a vector of variables, and find that prices are somewhat constrained by the existence of a greater number of over-the-air broadcast television signals. This suggests that cable television and broadcast television are, at some level, substitutes, something the historical wiring pattern of cable operators (who first went into areas where broadcast signals were weakest) also reveals. Yet, it does not allow us to conclude that market power is eliminated by the presence of a given number of off-air television competitors. Nor does it purport to address the efficiency of rate regulation.

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**3** *Congressional Record-Senate* (29 January, 1992), p. S 591. The most ardent public lobbyist for the 1992 Act, Gene Kimmelman of the Consumer Federation of America, made the same point: "Regulation is only an interim solution until cable competition emerges. But this short-term protection could save consumers \$6 billion per year and is an essential first step" (Gene Kimmelman, "Help Cable Customers By Regulating the Rates," *USA Today* [15 June, 1991], p. 5A).



Crandall (1990) estimates the own-price elasticity of demand for cable systems across the United States, finding a range of between -1.6 and -3.4, with an average of -2.2.<sup>4</sup> While this indicates that, for the marginal subscriber, there are good substitutes for cable television service, a monopolist would be expected to institute a pricing policy to achieve exactly this result. Consider the Lerner Index, a formula showing the profit maximizing elasticity for a price-searching firm:  $\frac{P-VC}{P} = \frac{1}{\eta}$ , where  $\eta$  = absolute value of the elasticity of demand. In that the average ratio of variable costs to revenues for U.S. cable systems was 53.9% in 1992,<sup>5</sup> the Index implies that a profit maximizing monopolist would raise price until it encountered an elasticity of -2.17.<sup>6</sup> Pricing along the elastic portion of the demand curve does not imply that market power is absent, nor that regulation would not reduce prices for consumers.

Rubinovitz 1991, in a Justice Department paper widely cited during congressional debate over the 1992 Cable Act,<sup>7</sup> estimated that about one-half of the price increases since the year-end 1986 cable deregulation were attributable to operating cost increases of cable systems, while the other half were attributable to market power.<sup>8</sup> Yet this study does not reveal whether the increasing cable quality (which he does find) was worth the surcharge which cable systems

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4 Crandall's results are also described in: Owen & Wildman 1992, p. 231.

5 Paul Kagan Associates, *Cable Television Financial Databook* (June 1993), p. 36. This gives the Cash Flow Ratio as 46.1%. This is defined as earnings before interest, taxes, depreciation and amortization, or revenues minus operating costs.

6 Setting the price equal to \$1 and variable cost to \$.539 yields:  $\frac{1}{\eta} = \frac{.461}{1}$ , so  $\eta = 2.17$ .

7 Typical was the following statement by Sen. Donald Riegle (D-MI) in support of S. 12: "I strongly support efforts to regulate cable.... The fact that most cable companies hold a monopoly over cable users provides them with the opportunity to raise rates in excess of that which would be allowed in a competitive market. A study conducted by an economist from the Department of Justice confirms this. That study found that at least 45 to 50 percent of the price increases since the mid-1980's were due to the cable industry's market power" (*Congressional Record--Senate* [22 September, 1992], p. 14614).

8 This is not surprising. As noted, the average cash flow ratio in the cable industry is about 46.1% (Paul Kagan Associates, *Cable Television Financial Databook* [June 1993], p. 36). On average, just 53.9 cents of the cable revenue dollar goes to variable costs.

(with market power) were able to collect. The welfare of consumers under regulation/deregulation is not examined: Consumers may prefer higher prices for higher quality in the post-deregulation marketplace, even if they pay twice marginal cost for added services.

Jaffe and Kanter (1990) note that the popular pre-occupation with nominal price increases is analytically troublesome. Examining basic prices following deregulation, the authors state: "This price increase does not, however, demonstrate the existence of monopoly pricing. Prices for premium services have decreased slightly (in nominal terms), and there is general agreement that the regulatory regime enforced a cross-subsidization from premium to basic services. Also, quality may have improved overall..." (*Ibid.*, p. 227). The authors are clearly correct in pushing the analysis beyond a cursory, one-period examination of nominal prices. Moreover, in dealing with the market power issue, they note: "Just as the run-up in basic prices does not prove the existence of market power, the existence of inter-media competition does not disprove it" (*Ibid.*).

Jaffe & Kanter go on to present evidence that cable systems generally rose in value post-deregulation, but that this overall trend, when decomposed, was due to the increase in rural cable systems sale prices. Systems located in major television markets did not increase in value. These results depend upon their premise that the effects of the 1984 Cable Act were capitalized into market transactions during the period immediately following its passage in October 1984, a questionable assumption in that cable rate deregulation had been moving through Congress since 1979.<sup>9</sup> Their conclusion is that greater competition is offered to cable television systems in major markets, presumably by over-the-air television and other entertainment outlets. Even

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<sup>9</sup> According to the legislative history of the Cable Telecommunications Policy Act of 1983, precursor legislation to the 1984 Cable Act, the first such measure (S. 622) was introduced on 12 March, 1979 by Senators Goldwater, Schmitt, Pressler and Stevens, while a competing measure (S. 611) was introduced on the same day by Senators Hollings, Cannon and Stevens. During the Spring of 1979, hearings were held on both bills on all or part of 22 days, whereon 171 witnesses were heard. (See: "Cable Telecommunications Policy Act of 1983: Report, Together With Minority Views," Senate Subcommittee on Commerce, Science, and Transportation on S. 66, To Amend the Communications Act of 1934 [27 April, 1983].)

if true, their previous admonition still stands: the existence of inter-media competition does not establish either the absence of market power, only that profitability is greater in some areas than in others. Moreover, the existence of -- or changes in -- cable system profitability are not perfectly correlated (negatively or positively) with consumer welfare.<sup>10</sup>

Another set of studies in the economics literature attempts to get more directly at the issue of price controls but the results, unfortunately, are mixed. Mark Zupan (1989b) found that there was a large price reduction associated with rate regulation: 34%. This was found in a cross-sectional study of 66 cable systems (6 of which were locally deregulated) prior to federal deregulation. Similarly, Mayo and Otsuka (1991), examining 1982 data for between 1,276 and 1,355 cable systems in cross-sectional price regressions, found that rates were constrained to below monopoly price levels by the existence of a municipal franchise. Curiously, the constraining effects of franchise regulation were even higher for pay channel prices, which have never been regulated by local (or other) governments. The authors attribute this to the possibility of reputational effects -- what FCC-watchers have called "regulation by raised eyebrow." Why informal regulation should be more binding than formal regulation is not obvious, nor is the very large debate over rate regulation: if informal rate regulation, backed up with the possibility of franchise revocation or non-renewal, is more effective than explicit controls, why should formal rate deregulation have significant impact at the margin?

Such cross-sectional studies are problematic in that, under a regime in which the municipality may regulate but chooses not to, the deregulation dummy sample suffers from selection bias: Is the cable company's price schedule really unregulated if the locality could step in to regulate it? And, given that the government has decided to allow an "unregulated"

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**10** Further complicating the issue is that Robin Prager (1992) finds that cable systems did not increase in value during the window when rate deregulation (in the 1984 Act) was news. Systems appear to appreciate only later (1986-88). The author attributes this result to a lag in the capital market's understanding of the effect of deregulation.

rate to be charged, is the observed rate truly a free market price? (See Hazlett 1990b, p. 143.) In any event, other studies have empirically estimated just the reverse result. In Robin Prager's 1990 study of 221 cable systems using 1984 data, an estimated price equation found that systems operating under local franchise regulation charged rates that were above deregulated system rates by a statistically significant amount. In a slightly different context, but leading to the same conclusion regarding the effectiveness of franchise regulation, Philip Beutel (1990) examined 27 randomly selected cable franchise auctions occurring between 1979 and 1981. His data revealed that companies which committed to charging higher prices had a *higher* probability of winning the franchise award. The explanation was that municipal regulators were interested not only in keeping prices low for consumers but also in distributing rents to key constituencies in the form of cross-subsidies. Municipal franchising agents elected, on average, to select the higher-priced, higher-rent package.<sup>11</sup>

While much interesting evidence is gleaned from the above investigations, the actual effects of federal deregulation and reregulation on *consumers* are not apparent. That is because the regulation/deregulation dichotomy is tainted so long as regulation remains the option of the municipal government, and because increased profitability does not necessarily emanate from decreased consumer surplus. In fact, two studies which have attempted to examine deregulation's effect on consumer welfare most directly have both found that output did not decrease and, therefore, quality-adjusted price must not have risen for the marginal subscriber, post-deregulation. Hazlett 1991 finds this result for California's deregulation in the early

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**11** Estimates of the size of the cross-subsidies involved in local cable regulation are found in Hazlett 1986 and Zupan 1989a.

1980s<sup>12</sup>; Woodbury & Baseman 1990 find this for the federal deregulation in the late 1980s.<sup>13</sup>

### 2.3 Cable Rate Controls, Welfare, and Rents

*With a century of regulation as a guide, one can confidently expect that rate setting will be used by regulators in an attempt to promote some types of programs over others. For example, in order to encourage the showing of programs that are socially desirable from the regulator's perspective, lower rates for their access may be instituted. Cross-subsidies are common in other areas of regulation, and it would be surprising if they would not also evolve quickly in the rate regulation of cable (Noam 1982, p. 220).*

What has confused the economic analysis of cable rate regulation is that the issue is not simply dichotomous: Rate controls may be important even if they do not lower prices below monopoly levels. That is, local regulators (franchising agents over cable systems, as vested by the federal Cable Act of 1984 and, in most states, long before) may employ rate controls either to lower price towards marginal cost (as in the traditional, public interest view), *or* as a means of promoting certain cross-subsidies.<sup>14</sup> In this latter role, controls are used by regulators as low-cost (non-litigious) contract enforcement devices, where the contract in question encompasses both the explicit franchise agreement and implicit political understandings tied to the

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**12** In this instance, deregulation was achieved at the discretion of the cable system operator: hence, sample selection bias would tend to exacerbate price increases associated with rate deregulation. Still, no evidence of quality-adjusted rate increases was found.

**13** This research was contracted for by the National Cable Television Association, and became embroiled in public controversy after being utilized in Commerce Department estimates of the impact of rate regulation in the summer of 1992. (See: Paul Fahri, "House Probing Cable TV Cost Data," *Washington Post* [29 August, 1992], p. A7.) In fact, the results of that study appear quite consistent with the economic evidence concerned deregulation and reregulation. Interestingly, the National Cable Television Association has now officially abandoned its previous position supported by the Woodbury & Baseman paper, and claims that regulation is highly effective in constraining cable rates.

**14** Some economists, immersed in "capture theory" analysis of regulation, may expect that price controls would be used to set price floors in the interests of the "regulated" industry. Since cable franchises are typically monopolies, they may set their own "price floors" without collusion and do not, therefore, gain directly from regulation-imposed rate controls. There is evidence, however, that legislators and cable industry incumbents have considered rate regulation as a *quid pro quo* for legal entry restrictions, but this story is entirely consistent with the cross-subsidy view of price controls.

franchise award. When cable incumbents do not perform certain of their express or implied obligations, a city council may simply defer action on a company request for a rate hike, or even deny such a request on vague, "public interest" grounds.

The enforcement of franchise terms is a classic and continuing problem for local governments dealing with cable monopolists (see Williamson 1976), and city governments have repeatedly professed the view that rate regulation is a means to an end: cable franchise discipline. For instance, the leading trade association for municipal regulators, the National League of Cities, opposed the 1984 Cable Act's rate deregulation on the following grounds:

*The National League of Cities is leading the fight against the [rate deregulation] changes in the bill. Without control over rate increases, cities would lose their efforts to force cable firms to provide adequate service, said Cynthia Pols, the league's legislative counsel.<sup>15</sup>*

This view was officially enunciated by two study groups appointed by the California state legislature to analyze the impact of state deregulation of cable television systems in 1979 (see Hazlett 1991). In both the 1982 and 1984 reports, the analysis concluded that price increases under deregulation had been "innocuous," but that a large problem had developed: cable systems were increasingly unresponsive to municipal requests to abide by franchise terms. The proposed solution was that the legislature authorize new "financial sanctions... [to be] applied to rate-deregulation systems as enforcement mechanisms" (CPBC 1982, p. 107). It is revealing that the California League of Cities had, similar to its national counterpart, opposed rate deregulation

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<sup>15</sup> "Cities Fight Move to Curb Local Cable TV Regulation." *National Journal* (5 September, 1981), p. 1600. Alan Beals, executive director of the League of Cities, also explained why municipalities should oppose rate deregulation in their trade journal: "All city officials should make every effort to meet with their Representatives on cable legislation... At these meetings, stress the impact of H.R. 4103 [the 1984 Cable Act] on your cable franchise... Point out that, if passed, H.R. 4103 will end nearly all rate regulation in your communities; that it will break commitments made during the franchise process; and that it will virtually guarantee franchise renewal" (Alan Beals, "The Cable TV Issue: Where We Are, What We Must Do." *Nation's Cities Weekly* [30 January, 1984], pp. 1. 7).

in 1979, on the argument "that periodic rate hearings are the only practical method a local government has to insure that cable companies live up to the promises they made in the original franchise."<sup>16</sup>

The cable industry has long held a symmetric view: rate regulation is about franchise enforcement, and redirecting profits, not about squeezing price-cost margins in favor of consumers. A leading cable industry analyst wrote, as the congressional reregulation rumblings were being heard: "Cable's legislative headaches are a by-product of the Cable Act. Rate deregulation curtailed local leverage, thereby forcing franchising authorities to threaten more drastic action in order to extract commitments."<sup>17</sup> By 1990, this view of price controls had become conventional wisdom within the cable industry and beyond, as is apparent in the GAO's analysis:

*When cable television first developed as a means of providing better television reception, many cities and a few states began regulating the basic rates charged to cable subscribers. The regulation of basic rates was a condition of the local government's grant of a franchise or license. The franchise permitted the cable system to construct and operate cable facilities and systems, and to use local streets and rights-of-way to connect cable subscribers. The franchise agreement could also be used by the locality to prevent cable operators from charging unreasonably high basic rates for what was seen as an essential service in these areas. In addition, cities viewed the ability to deny or delay a requested rate increase as a useful tool to enforce other provisions of a franchise agreement, such as the obligation to provide service to all residents of the service area (GAO 1990, p. 12).*

Economic analysis has tended to overlook this bargaining dynamic. For instance, Carroll & Lamdin (1993) assert, when looking at cable operator stock prices, that "The traditional [public interest] view would predict that share values would increase upon news of rate deregulation

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<sup>16</sup> Lee Margulies, "Pending Bill Pulls Plug on Fee Controls," *Los Angeles Times* (19 June 1979), p. VI-12. The article also noted that "It (rate deregulation) is the biggest stick we have, and if you lose it, it makes it much more difficult to force compliance with the terms of the franchise," said Bill Keiser, general legislative counsel to the League of California Cities" (*Ibid.*).

<sup>17</sup> Paul Kagan Associates, *Cable TV Franchising* (31 May, 1989), p. 1.

and decrease with news of rate reregulation" (p. 387). This view omits the possibility that rate deregulation could benefit incumbent monopolists by raising enforcement costs of local franchisors, thereby effectively relaxing cross-subsidy requirements. Similarly, when commenting on the Jaffe & Kanter finding that cable system values rose following deregulation, Carroll & Lamdin label the results "support for the contention that cable system operators have some monopoly power, and that rate regulation had effectively constrained these firms" (*Ibid.*).

This two-dimensional view of cable rate regulation is clearly inadequate: market power may well be exercised even if supracompetitive profits do not flow solely to the cable franchisee. Rents may be transferred to other interest groups in the form of cross-subsidies or rent-seeking expenditures incurred in order to keep or retain the monopoly franchise. It has been shown repeatedly that such cross-subsidies within the franchise arrangement are commonplace in cable markets.<sup>18</sup> Noam goes to far as to offer (see quotation above) that it would be remarkable if such cross-subsidies did not emerge from the rate regulation regime. Hence, showing that some cable systems evidence higher profits than others does not reveal the degree to which subscriber rates are being suppressed: such rents as do not go to cable firms may nonetheless be redistributed from consumers to other interest groups. Indeed, the economic theory of regulation has, in its most recent rendition, led us to look for distributional *coalitions* emerging victorious in regulatory competitions (Gilligan, Marshall & Weingast 1989). Such coalitions typically include the incumbent firms in the regulated industry, but are not limited to such.

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**18** Carroll & Lamdin 1993 refer to such evidence as generally "anecdotal." Williamson's classic 1976 paper is a good example of this, while Edwards (1985) offers an even more elaborate description of rent-seeking for the cable franchise. And while it would be unusual if rent-seeking expenditures were easy to quantify (given the nature of the process, rent-seekers generally do not collect receipts and publish their costs), several studies have attempted to do this with respect to cable. Hazlett 1986 reports various such quantifications, including an Ernst & Whinney tabulation that the typical cable franchise in the early 1980s was required to devote 22% of total costs to uneconomic (i.e., cross-subsidized) services. Zupan 1989a divided such costs into capital and operating categories, finding 26% in the former and 11% in the latter. Beutel 1990 also reports econometric findings that reveal large cross-subsidies embodied within cable franchise agreements.



Whereas Stigler (1971) posited that the regulated producer group would generally dominate the regulatory regime, Peltzman (1976) generalized the model to include the possibility that consumer interests could receive some consideration in the trade-off between (regulated) price and profits received by consumers. Added to this mix is now a second-stage trade-off, which follows the Gilligan et al. (1989) insight: once profits are created (or permitted) by regulators, they may be reassigned within the political process so as to maximize support for the key public decisionmakers. This approach incorporates the compelling view of regulation found in Posner (1971) with the rent-sharing realities of regulation found in the more recent studies.<sup>19</sup>

### 3 Price Controls & Cable Television

#### 3.1 Quality Responses to Rate Regulation

*Price really has no meaning except in terms of an assumed quality of service; price is a ratio, with money in the numerator and some physical unit of given or assumed quantity and quality in the denominator. Price regulation alone is meaningless (Kahn 1988, p. 21).*

When binding price controls are levied on a good or service, demanders and suppliers react -- at a general level -- in fairly standard ways.<sup>20</sup> Demanders are willing to bid up prices above rate-controlled levels, and express this willingness with payments that are officially "non-price" offers. Such offers may entail both transfers (attempts to pay suppliers in either

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**19** The Gilligan et al. (1989) study concluded that the Interstate Commerce Act of 1887 was the product of an inter-industry compromise, rather than one of pure producer capture. Similarly, Hazlett (1990c) found that the Radio Act of 1927 was a rent-sharing political solution predicated on blocking new entry into broadcasting.

**20** See Cheung 1974 for a general theory of price regulation, and Hazlett 1991 for an analysis of how price controls affect cable television quality.

legal or illegal means, effectively raising the price paid above the controlled level) and waste (such as the opportunity costs expended by consumers queueing in shortages). Only the latter entails social inefficiency, although the former defeats the announced purpose of price controls.

Suppliers also react. In the prototypical market (where the supply curve slopes upward, and price equals marginal cost for the last unit sold), the *sine qua non* of an effective price control is excess demand. This allows the supplier to profit by lowering quality because any additional sales beyond the pre-control level take place below marginal cost. Lowering quality allows the firm to unambiguously gain by, firstly, economizing on input costs, and secondly, by reducing quantity demanded of below-cost units. Hence, the profit-maximizing firm operating under binding price controls is led to withdraw quality-enhancing inputs until excess demand is eliminated.<sup>21</sup>

In the case of price controls on a firm where marginal costs are constant and market power is exercised, a reasonable approximation of local cable markets in the United States,<sup>22</sup> the unregulated price will be set above marginal cost. In this environment, price controls hold out the theoretical possibility of enhancing welfare by lowering market price and expanding the volume of sales past the point where marginal revenue equals marginal cost. To the extent that controls are binding in such a market, however, the supplier may still have an incentive to either lower quality and exploit whatever market power is available at a lower level of product quality, or to withdraw from the rate-regulated market. The first opportunity arises when regulatory authorities imperfectly monitor the substitution of lower-cost inputs for those of higher cost;

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**21** Quality here is seen as subjectively measured by consumers: as the consumer's demand price for a unit changes, so changes "quality." Hence, depreciation of quality could result from a lesser volume being included in the package, or cheaper inputs being used to produce the same sized package, or by the withdrawal of marketing (or other) expenditures which enhance the product's value in the eyes of consumers.

**22** In recent years, the cable industry has demonstrated a Q ratio in excess of 3 (Hazlett 1990a, p. 98).

the latter when there is an "adjacent" market which is unregulated, allowing the seller to simply shift sales there, absorbing some transactions costs but freeing itself of regulatory constraint. Thus, the seller will avail itself of this opportunity whenever the costs (to the seller) of such a practice are exceeded by the cost of complying with price regulation. This is relevant to the cable television market in that each regulated system simultaneously sells in unregulated markets -- for premium and pay-per-view services, for instance<sup>23</sup> -- which invite entry to the degree that price controls on basic cable services impose revenue losses on the operator. Here, the regulation of price does not directly lead firms to lower quality overall, just of the regulated package; it does, however, lead to marketing inefficiencies undertaken to evade regulatory constraints. The higher marginal costs which result may raise effective price.

The first form of response does directly affect product quality, however. Suppose, for instance, that two products, A and B, are substitutes in an unregulated environment. A homogeneous set of consumers are indifferent between Service A sold at \$4.00 and Service B sold at \$3.00; the (constant) unit cost of A is \$1.50, while the marginal cost of B is \$1.25. (Assume that only one is provided, either due to capacity constraints or because the demand price for the second service falls below marginal cost if the first one is already being consumed.) Under an unregulated regime, the supplier will elect to provide A, for an operating profit of \$2.50 per customer (higher than the \$1.75 profit associated with B). Now a price control is levied on this service, imposing a price ceiling of \$3.00. Selling the cheaper product, B, will now yield the higher profit per customer (\$1.75 vs. \$1.50). Unless regulators can prevent this input substitution with aggressive monitoring, or there is an adjacent, unregulated market which

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<sup>23</sup> In 1992, U.S. cable operators, on average, derived 57.5% of total revenues from basic cable, while the remaining 42.5% was largely unregulated under the 1992 Act. (See National Cable Television Association, *Cable Television Developments* [June 1993], p. 8-A.)

makes it easy to recoup the cost of retaining high quality (\$.25 per customer),<sup>24</sup> the firm will substitute low-quality for high-quality. This places the firm in a sup-optimal maximization due to the price control constraint: profit has been reduced from \$2.50 to \$1.75 per customer. But the cost of the imposed price control has been reduced from \$1.00, which would obtain had the firm continued to provide the high-quality unit, to \$.75.<sup>25</sup>

The underlying logic in either instance is that a firm may partially evade price controls by changing the product which is controlled.<sup>26</sup> In most instances, however, transactions costs and factor mobility constraints will limit such reactions. Moreover, regulators will be monitoring product quality as part of the price control effort, precisely due to the incentive structure which such controls yield. Policymakers generally understand that price controls cannot be successfully implemented without some practical and/or imposed constraint on product quality (*e.g.*, the existence of significant sunk investments, or aggressive regulatory oversight). The package of services on which the price control is levied must be "sticky" with respect to quality, otherwise the "controlled" product will simply metamorphosize into a new, quality-depreciated, "de-controlled" product. Where resources are mobile but imperfectly so, the incentive for suppliers to depreciate quality will obtain, but be muted to some degree.<sup>27</sup>

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**24** If this route were taken by the supplier, the spirit of price controls would be circumvented by the extraction of payments in another form. Quality of the package of services would remain constant, while transactions costs (resulting in higher marginal costs) would be borne by both suppliers and customers.

**25** Leffler (1982) similarly finds that quality depreciation is likely but not unambiguously implied by price controls.

**26** Of course, the firm could market a higher-quality, "new & improved" package, but price ceilings would not permit this route of escape. Price floors, however, do have the well-known effect of improving product quality, as suppliers attempt to deliver more product to the customer so as to circumvent the minimum price restrictions. The pre-deregulation airline industry was an example of this form of non-price competition.

**27** For inputs which are sunk in the short to medium term, depreciation of product quality can occur in the form of deterred investment; suppliers elect to simply let old (depreciated) capital provide services for a longer period of time. It is well-known that stiff controls imposed on residential apartment markets tend to freeze out new investment, for instance.

The classic illustration of this problem is offered by rent controls in residential housing markets. Policymakers have long known that municipalities instituting rent controls must undertake to monitor a host of second-order adjustment margins. Those margins concern (a) quality depreciation of rental units; (b) attempts to sell housing services in adjacent, unregulated markets. The first concern has spawned rules concerning appropriate maintenance and enforcement of housing codes. The second has prompted regulations circumscribing non-price (or extra-lease) bidding for apartments (key money, bribery, discrimination, *e.g.*). Rules attempting to prevent housing units from "escaping" have been at least partially effective. Most notable are laws limiting the ability of landlords to withdraw rental units from the market altogether. Condo (or co-op) conversion laws are notably strict in communities with stringent rent controls.

### **3.2 Rate Regulation and Cable Television**

The apartment market has at least one very large difference when compared to the cable television market: the relative fixity of apartment services.<sup>28</sup> Once the structural investment is sunk, the housing services flowing from a building cannot be instantly depreciated by the curtailment of operating costs.<sup>29</sup> Physical plant can be depreciated in response to regulation,

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**28** While cable plant is largely sunk, cable operators provide program services over fixed infrastructure. In general, operating expenses (excluding amortization, depreciation, or interest charges) constitute about 54% of cable revenues (Paul Kagan Associates, *Cable Television Financial Factbook* [June 1993], p. 36). This is far above the proportionate operating costs of apartment owners.

**29** In his 1974 article, "A Theory of Price Control," Steven Cheung uses the rent control market to establish what he believes to be a general paradigm for price (or other) regulation. The theory revolves around how buyers and sellers will attempt to claim or dissipate the economic rents which become, in essence, common property when binding controls create excess demand. That Cheung focused on apartment rent controls led him to skip past the straightforward point that a supplier (landlord) can reclaim lost property rights by withdrawing costly inputs. That withdrawable operating costs are such a small portion of the apartment supply function apparently kept this insight hidden. It can be included in his property rights framework, however, by noting that, where  $VMP > MC$ , the withdrawal of an input is a wasteful rent-seeking dissipation: To recoup some of the rents lost from price controls, suppliers are willing to curtail socially efficient expenditures.

but only over a substantial time frame. Cable television services, however, entail both the transport function over cables (sunk similarly to housing structures<sup>30</sup>) and the provision of video programming. Only the former is directly analogous to the rent control example; the program menus are comprised of inputs which are highly mobile.

Not only is quality difficult to measure<sup>31</sup> and, hence, monitor, cable regulators are *legally constrained* from exercising any discretion over programming quality due to both federal regulations and the U.S. Constitution. Since the late 1970s cable operators have won a series of landmark cases establishing their First Amendment rights as "electronic publishers." These bar local officials from exercising authority over what channels are carried or the shows such channels carry. Recently, cable's status as Constitutionally-protected publishers received a large boost, when it was extended to a telephone company attempting to compete in cable. The 1993 federal court decision found that Bell Atlantic, a supplier of local telephone exchange services, had a First Amendment right to provide transport of video signals, and to own the programming that was provided directly to subscribers.<sup>32</sup> There are certainly strong public policy reasons for not attempting to surmount this First Amendment barrier. As Eli Noam has considered this issue in the context of constraining cable's considerable, and troublesome, market power:

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**30** Although depreciated far more rapidly. A 20-year-old apartment house is often thought of as "new"; a 20-year-old cable system is obsolete. This is another important difference between the two markets in examining the impact of price regulation.

**31** The difficulty in measuring cable program quality is such that economists who have undertaken this task have used such measures as "total channels offered to subscribers" as a proxy (see Otsuka 1993). That such an approach is fraught with danger is obvious to anyone who has flicked a cable television remote control. Not only are not all channels created equally, both cable firms and cable regulators have historically had incentives to cross-subsidize particular channels and even channel capacity itself (see Hazlett 1986).

**32** *The Chesapeake and Potomac Telephone Company of Virginia, et al. v. United States of America*, U.S. District Court for the Eastern District of Virginia, No. 92-1751-A [24 August, 1993].

*The emergence of rate regulation would cause no cheer. Historically, rate regulation is easiest to administer where the product can be clearly defined and quantified and where the industry is relatively stable; the provision of water or electricity are good examples. Rate regulation is much more difficult when it deals with complex and variable mixtures of services or where the regulated industry is extremely dynamic in its development as is the case with cable television (Noam 1982, p. 219).<sup>33</sup>*

Public regulation of private business is fraught with difficulty under the best of circumstances, and economists have, for at least three decades, repeatedly asked the simple question: What can regulators regulate? In this market, regulators are asked to control market prices without any substantial ability to legally regulate the content of the unit being sold.<sup>34</sup> Clearly, cable operators will adjust quality of regulated services<sup>35</sup> and market-shift in response to price caps.

Another potentially important aspect of cable rate regulation is institutional. Historically, cable television systems have not been regulated on a rate-of-return basis, as have public utilities.

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**33** It is curious that Noam, writing in 1982, talks about the "emergence of rate regulation." Of course, this was during a period when local governments were perfectly free to engage in rate regulation, and most of them professed to do so. This was never taken quite seriously as an effective tool for consumers by those close to the industry (including, apparently, Professor Noam, a highly knowledgeable analyst). In fact, Greenhut et al., 1987, conveyed what they believed the conventional wisdom on the subject at that time when they wrote: "it is well-known that regulation of rates has had little effect on monopoly prices, as most rate-increase requests have been granted..." (p. 372; footnote omitted).

**34** This constraint on regulatory monitoring has been discussed before. A 1990 Federal Trade Commission report identified the statutory problem associated with non-price attributes of cable television in municipal franchising proceedings by noting that: "The 1984 Cable Act... may make it more difficult for local governments to threaten non-renewal. Section 626(c)(1) limits the criteria that the government may use in deciding to not renew an operator's franchise. This decision may not be based on the prices charged by the operator, nor on 'the mix, quality, or level of cable services or other services provided over the system.' The fact that cities cannot use them in renewal decisions likely vitiates the usefulness of the franchise bidding process as a regulatory mechanism" (FTC 1990, p. 34). The report cites to First Amendment case law in cable, and these decisions continue as precedents even as the 1984 Cable Act has been largely repealed. Ironically, the FTC recommended giving localities more discretionary authority over cable services without noting the potential dilemma regarding either abridgements of the First Amendment or wasteful cross-subsidy requirements.

**35** Boudreaux & Ekelund 1993 presents a nice theoretical model explaining how cable operators will optimize quality in response to price controls.

Instead, pre-1984 franchise agreements (generally controlled by municipalities but in some cases involving state regulatory authorities) typically included a starting price schedule, along with a provision that the franchisee receive permission to raise rates. A city council (or other legislative or regulatory body) would vote to approve or disapprove price increases. This procedure did not involve elaborate fact-finding with respect to a system's underlying cost base. Even the 1992 federal reregulation (which mandates the Federal Communications Commission to create rate guidelines, to be enforced by localities in conjunction with the FCC) sets rate caps rather than rate-of-return formulae.<sup>36</sup> The institutional structure is fundamentally different, then, than the cost-plus environment created by rate-of-return regulation, a regime which has given rise to the over-investment incentives described as the Averch-Johnson effect (Averch and Johnson 1962).

*The cable television package.* Cable program services are delivered in three broad groupings: Basic services, premium services, and pay-per-view.<sup>37</sup> The most popular basic package contained an average (nationwide) of 35 channels in the General Accounting Office's 1991 survey of cable rates.<sup>38</sup> These include the locally-available off-air (broadcast) signals (such as ABC, NBC, CBS, Fox, PBS, and the independents), as well as cable-only networks (such as CNN, ESPN, Discovery, A&E, USA, and MTV<sup>39</sup>). This basic package is the product which has been regulated or deregulated as dictated by regulatory policy. Premium services

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**36** The FCC is planning to allow systems to charge higher-than-capped prices via a cost-of-service showing, as a safety valve measure. Such procedures have not yet been crafted, but are expressly created as special case exemptions from the general rules.

**37** Advertising, home security, digital music, alternative telephone access, home shopping and other services are also delivered by cable systems, but the above three categories (basic, pay, and pay-per-view) accounted for about 90% the industry's total revenue in 1992. (Paul Kagan Associates, *The Cable TV Financial Factbook* [June 1993], p. 7.)

**38** GAO 1991.

**39** Broadcast stations which are distributed nationwide to other cable systems (such as WOR, WGN, or WTBS) are called "superstations," and are generally counted as cable networks.



(such as HBO, Showtime, or Disney) are delivered on an *à la carte* basis, and have been explicitly exempted from price regulation since the 1970s.<sup>40</sup> Pay-per-view falls into this unregulated category.

*Basic Tiers.* Within the "basic package" there are varying tiers of service. "Limited basic" has characteristically included a bare-bones menu of off-air broadcast signals and local origination/public access programming (sometimes including C-SPAN). This level of service has historically constituted a very small portion of the market; a 1994 FCC survey showed just 3.4% of cable customers subscribed to such service in April 1993, although the effect of reregulation in 1993 has been to raise that percentage to 13.4% as of September 1993 (FCC 1994, p. 14).<sup>41</sup> In the 1992 Act, this limited menu is simply referred to as "basic cable." This is confusing, because what is commonly (outside of the Act) referred to as "basic cable service" typically includes a much larger complement of cable-only networks. Such larger packages are referred to in the Act as "cable programming tiers."<sup>42</sup> They do not include premium channels or pay-per-view.

### **3.3 Federal Rate Deregulation (1984)**

Federal rate deregulation came in the Cable Communications Policy Act of 1984,<sup>43</sup> which pre-empted local, state or federal rate controls in any community where "effective competition" was found to exist by the Federal Communications Commission. In April 1985 the FCC ruled

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**40** They continue to be explicitly exempted from price controls in the 1992 Cable Act.

**41** Many systems collapsed their "expanded" basic into the lowest tier, thus raising the percentage subscribing to this package.

**42** The easiest way to think of the basic package is to use the term "limited basic" to describe what is usually described in the 1992 Act (or now by the FCC) as "basic," and to call "expanded basic" the full package which the Act refers to as "cable programming services."

**43** 47 U.S.C. § 521.

that such was the case whenever three over-the-air broadcast television systems were available (FCC 1985, pp. 32-3). This removed price controls on about 96.5% of U.S. cable systems, and for about 99% of all U.S. subscribers.<sup>44</sup>

This measure, while popularly referred to as "deregulatory" in nature, did not open up local cable markets to competition. Quite the reverse: the measure added two significant entry barriers. First, mandated that all cable systems be franchised by local governments; in a significant number of localities, free entry had been the rule.<sup>45</sup> Secondly, the measure codified the FCC's 1970 telco/cable cross-ownership ban. As the local exchange companies were the likeliest large-scale competitors in local multi-channel video markets, this was hugely important to the industry. Finally, it increased the incumbent firms' property rights in the cable franchise, making revocation or non-renewal much more difficult for cities.

By the mid-1980s the cable industry was blessed with the following regulatory environment:

- *First Amendment rights to select programming.*

Government's ability to regulate program content was severely constrained, as even "must carry" rules (the FCC policy which required cable companies to include all local broadcast signals on their basic packages, one of the last vestiges of broadcaster protection) were found unconstitutional by federal courts as an infringement upon the cable company's right to be an "electronic publisher."<sup>46</sup>

- *No rate regulation.*

The 1984 Cable Act pre-empted regulations on basic cable rates, rate regulation of premium channels (including what is now called pay-per-view) has never been allowed. The deregulation in the 1984 Cable Act was phased in; 5% rate increases were permitted for 1985 and 1986, followed by rate decontrol as of 29 December, 1986.

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<sup>44</sup> GAO 1990, p. 63.

<sup>45</sup> No national accounting of cable franchises is available. But a 1982 survey of Pennsylvania cable systems by Pennsylvania State University categorized systems by "franchise/no franchise" status. It found that 15.9% of cable systems within the state fell into the latter category (Allen & Kennedy, 1982; pp. 3-11).

<sup>46</sup> See: *Quincy Cable TV, Inc. v. FCC*, 768 F.2d 1434 (D.C. Cir. 1985), *cert. denied*, 476 U.S. 1169 (1986).

- *A secure property right in the cable franchise.*

The 1984 Act shifted the burden of proof in franchise renewals: municipalities would henceforth have to formally prove that franchise terms had been violated in order to deny an incumbent's franchise renewal.

- *Franchise burdens for new entrants.*

The 1984 Act required cable systems to be licensed by local governments.<sup>47</sup>

- *The 1984 Cable Act codified the FCC's 1970 cable/telco cross-ownership ban.*<sup>48</sup>

Telephone companies were prohibited from locally offering video service to the public in which they had any significant ownership interest.<sup>49</sup> As the FCC was soon to reverse its position on the ban, this would prove a binding regulatory constraint.<sup>50</sup>

The resulting marketplace was an optimal policy outcome for incumbent cable operators: secured property rights in monopoly franchises, no regulatory constraint on product or pricing choices, and entry barriers against potential entrants including an outright ban on integrated telco-cable suppliers. It is little wonder that the president of the leading cable operator trade association framed a copy of the 1984 Cable Act on his office wall.<sup>51</sup>

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**47** To see how this requirement raised entry barriers, see: John Wolfe, "Florida Operators Gain Weapon in Fight Against Overbuilders," *Cablevision* (15 June, 1987), pp. 50-1; and Telesat 1990.

**48** *Applications of Telephone Common Carriers for Section 214 Certificates for Channel Facilities Furnished to Affiliated Community Antenna Television Systems (Final Report and Order)*, 21 F.C.C.2d 307 (1970), *recons. in part*, 22 F.C.C.2d 746 (1970), *aff'd sub nom. General Telephone Co. of the Southwest v. United States*, 449 F.2d 846 (5th Cir. 1971). The cross-ownership ban was codified in 47 U.S.C. § 533(b).

**49** The local exchange companies have the opportunity to apply to the FCC for permission to build conduit facilities upon which others may offer video programming to the public on a tariffed basis. The FCC calls this arrangement "video dialtone" service. See: *Telephone Company-Cable Television Cross-Ownership Rules (Second Report and Order, Recommendation to Congress, and Second Further Notice of Proposed Rulemaking)*, 7 FCC Rcd 5781 (1992).

**50** *Telephone Company-Cable Television Cross-Ownership Rules: Further Notice of Inquiry and Notice of Propose Rulemaking*, 3 FCC Rcd 5849 (1988).

**51** "Hanging in [NCTA President James] Mooney's office is a copy of the Cable Communications Policy Act of 1984, which deregulated cable, enriched cable operators and contributed to the cable programming boon of the 1980's. It is a tribute to Mooney's legislative prowess. The act is the only major amendment to the Communications Act of 1934 -- the basic charter of communications law. Mooney would like to keep it that way" (Harry A. Jessell, "Mooney: Rereg No Sure Thing," *Broadcasting* [4 May, 1992], p. 15).

### 3.4 Federal Reregulation (1992)

The overwhelming policy successes enjoyed by the cable industry ironically exposed it to new political risks. Fueled by customer complaints concerning poor service, high prices, and monopoly arrogance, Congress began debating "re-regulation" of cable in 1988, and got seriously close to enacting legislation in October 1990. By October 1992 a bill which included reregulation of cable television rates was enacted over President Bush's veto -- the only instance of a Congressional override during the Bush Administration.

The Cable Consumer Protection and Competition Act of 1992 was a comprehensive measure which did the following<sup>52</sup>:

- *Basic cable rates reregulated.*

Placed controls back on "limited basic" and "cable programming services" -- expanded basic tiers (*i.e.*, everything up to *à la carte* or pay-per-view offerings), except in those markets where a head-to-head multi-channel video competitor was operating.<sup>53</sup> Directed the FCC to define the "reasonable" rate levels, to limit prices charged to such levels with the assistance of municipal authorities and a consumer complaint process, and to define the terms of regulation.

- *Established retransmission consent for broadcasters.*

Since the 1976 Copyright Act, broadcasters had been uncompensated by cable operators retransmitting their signals. This was reversed.

- *Alternatively, gave broadcasters the option of "must carry."* This allows a station to voluntarily forgo any retransmission fees in exchange for (mandatory) carriage

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<sup>52</sup> See also: Allard 1993a, 1993b.

<sup>53</sup> This was defined as a market in which the smaller firm was capable of serving at least 50% of the homes in the franchise area and did, in fact, serve at least 15%. This includes wireless cable or direct broadcast satellite firms. Another exemption from regulation was offered to cable firms which served fewer than 30% of the homes in the franchise area. The overwhelming majority of cable markets do not qualify for either of these exemptions.

on local cable systems.<sup>54</sup>

- *Enacted modest pro-competition reforms.*

Included in the act are measures promoting program access for competitive video providers, uniform pricing by local cable systems (which had been discriminatorily underpricing new entrants), and a directive to cities requesting that they issue competitive franchises. Some rules are effectively undermined by other provisions, however (*e.g.*, the elimination of monetary damages against municipalities which unreasonably refuse to grant competitive cable licenses).

- *No change in 1984 telco-cable cross-ownership ban.*<sup>55</sup>

- *At least 24 FCC rulemakings and reports mandated.*

Issues include interior wiring rules, horizontal concentration, vertical integration, controls on indecent or obscene programming, tier buy-through provisions, customer service, small cable system regulatory exemptions, cost of service adjustments to price regulations, etc.

### 3.4.1 Rate Regulation under the 1992 Act<sup>56</sup>

The 1992 Cable Act mandated that there would be two levels of rate regulation: the first for basic service, the second for all higher tiers of "programming services." The first level of service would be primarily regulated by local governments, although the FCC was

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<sup>54</sup> While "must-carry" rules had previously been struck down on constitutional grounds by federal courts (see above), the U.S. District Court of Appeals (D.C. Circuit) surprised many industry analysts by *approving* the "must-carry" rules contained in a 1993 ruling on a lawsuit challenging the 1992 Act (*Turner Broadcasting System, Inc. v. FCC*, No. 92-2247 [D.C. Cir.; 8 April, 1993]). The U.S. Supreme Court has, in fact, over-ruled the D.C. Circuit decision in a very recent opinion, remanding the matter to a lower court. It did not find that cable operators have quite the degree of First Amendment protection afforded newspapers, but found that they had more standing than broadcasters. Since the opinion was decided by a 5-4 majority, with one of the five being a retiring associate justice, the matter may still not be fully resolved. (Linda Greenhouse, "Justices Back Cable Regulation," *New York Times* [28 June, 1994], pp. C1, C4; Paul M. Barrett, "Justices Order FCC to Justify Cable-TV Rules," *Wall Street Journal* [28 June, 1994], pp. A2, A20.)

<sup>55</sup> The ban on telco entry into video has since been found unconstitutional by a federal court in the suit filed by Bell Atlantic (*op cit.*, *supra*). The issue is being litigated both on appeal in that case as well as in First Amendment suits filed elsewhere by all six of the other Regional Bell Operating Companies, as well as GTE and Southern New England Telephone. Federal legislation to eliminate the ban on cable vs. telco competition (H.R. 3636, the Markey-Fields bill) is now being considered by Congress. (See: Mike Mills, "Spirit of Cooperation Breaks Media Industry Gridlock," *Congressional Quarterly* [15 January, 1994], pp. 64-69.)

<sup>56</sup> This section follows Allard 1993b.

instructed to create regulatory guidelines and to officially certify local franchising authorities before they were allowed to carry out rate regulation.<sup>57</sup> Regulation of higher tiers is conducted directly by the FCC in response to complaints filed by local citizens or by the certified regulatory boards. The FCC is required to regulate if, upon such formal complaint, local cable rates are found "unreasonable." The Act lists at least six factors to be taken into account by the FCC in defining "unreasonable."

On 1 April, 1993, the Federal Communications Commission announced that it would (1) freeze all tiers of basic cable at their levels (plus inflation) as of 30 September, 1992, and order rate-rollbacks by 1 September, 1993 of up to 10%.<sup>58</sup> This was based on the so-called competitive price differential of 9.4%, as estimated in an FCC price equation which included a dummy sample of "effectively competitive" cable franchises. Rate caps for programming were instituted on a per-channel basis. Each system would determine, according to its size and number of channels, "benchmark rates" for its basic programming services according to tables published by the Commission. It would then be allowed to charge either the benchmark rate, or 90% of its per-channel rate as of 30 September, 1992 (adjusted for inflation up to the present). This format applies to both "basic" and "programming services."<sup>59</sup>

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**57** If the local franchising authority fails certification the FCC is required to directly regulate cable rates there pursuant to individual customer complaints. There are approximately 33,000 local franchising authorities in the United States, and 11,000 cable television systems.

**58** A host of other issues were addressed. The Report and Order was 521 typewritten pages, single spaced. The *Notice of Proposed Rulemaking* in December 1992 had inspired comment from 176 parties, and reply comments from 121. One round of filings to the Commission weighed over 40 pounds.

**59** Equipment charges, such as monthly fees for remote controls, additional outlets, converter boxes, etc., were also controlled, but the rate benchmarks were binding on the overall package including equipment rental. Hence, if equipment charges were reduced, this allowed operators to raise monthly subscription charges so long as the new rate, overall, fell under the benchmarks.

### 3.4.2 Re-reregulation (February 1994)

The 10% (maximum) rate rollback was based on the FCC's estimation of the difference between monopoly and competitive cable prices, but the Commission had employed a troublesome definition of what constituted an "effectively competitive" cable system (Hazlett 1993). In August 1993, the Commission declined to revise its 10% figure. On 22 February, 1994, however, the Federal Communications Commission did elect to redefine its price caps (FCC 1994c). A re-crafted FCC model found that the correct difference between competitive and monopoly prices was more not 9.4% but 16%. This was "rounded up" to 17% -- the new "competitive price differential."<sup>60</sup> This revised rulemaking called for a new round of "rate rollbacks," which the Commission later announced would be instituted 14 July, 1994.

Additionally, the Commission announced in February 1994 that it would not only be limiting future rate hikes, but would adopt a declining rate cap formula, forcing future cable prices down by an annual productivity factor.<sup>61</sup> Analogous to price caps on utilities which leave profits (and therefore costs) unregulated but require rates to fall over time,<sup>62</sup> the framework appears to achieve symmetry with other regulatory structures in telecommunications. But via a dramatically different direction: Forcing price caps on previously unregulated operators who are simultaneously program content suppliers yields a host of transitional and compliance issues not of immediate consequence in natural gas, electricity, or telephony.

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**60** Paul Fahri, "FCC to Cut Cable Rates Again," *Washington Post* (22 February, 1994), pp. A1, A6; Federal Communications Commission, "Third Order on Reconsideration in Cable Rate Regulation and Tier Buy-Through Proceedings," MM Docket Nos. 92-266 and 92-262, Executive Summary (undated, but released 22 February, 1994), p. 2.

**61** There were other regulatory escalations, including the ruling that "cost of service" showings would not be able to include capital costs above book value.

**62** Often price caps, as enacted by regulatory agencies, are less than "pure," meaning that some profit regulation remains in effect.

There has been a good measure of backtracking by the Commission since the February 1994 rulemaking.<sup>63</sup> The annual productivity factor adjustment was quietly abandoned, and the FCC is moving away from two key provisions on cost determination. The February rules stated that new programming could only be added to systems at cost-plus-7.5%. In other words, if a channel costing the operator 25 cents per subscriber per month were added to a system's basic line-up, the monthly basic rate could be raised no more than 27 cents. As regards the cost of capital assumption employed in cost-of-service filings the Commission had decided that 11.25% was the appropriate cost of capital in February; both of these rulings are under reconsideration by the Commission.<sup>64</sup> Moreover, the Commission's announced intention of curtailing the use of *à la carte* to evade rate controls<sup>65</sup> had not been formally articulated as the second round of rate rollbacks (14 July, 1994) went into effect.

#### **4 Economic Evidence on Federal Deregulation/Reregulation**

When binding rate controls are imposed on cable operators, the predictable implications include the following:

- *systems will shift desirable basic programming to unregulated tiers or à la carte status;*
- *systems will reduce program expenditures and offer lower quality program services on regulated tiers.*
- *systems will shift marketing efforts towards unregulated services.*

And the reverse should be observed when rate controls are eliminated.

The key question for policy analysis is: What is the net effect of such changes on consumer welfare?

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**63** Perhaps this constitutes de-re-reregulation.

**64** Vincente Padeloup, "An FCC Olive Branch?" *Cable World* (30 May, 1994), p. 2.

**65** Federal Communications Commission, "Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992; Report and Order and Further Notice of Proposed Rulemaking," MM Docket No. 93-266 (22 February, 1994), p. 3.



The approach of this paper is very simple. It analyzes the effect of rate regulation of cable systems on consumer welfare by focusing on two aggregate variables observable in the cable television industry: price and output. Ancillary evidence, including interest group support of (or opposition to) various regulatory rules will also be enlisted. The baseline for this analysis is the straightforward prediction that, in the event that price controls "work," price and output should move in opposite directions following a regime switch. Hence, the following hypotheses emerge:

$$H_0 \Rightarrow p_u > p_r \text{ and } q_u < q_r;$$

$$H_1 \Rightarrow p_u \leq p_r \text{ and } q_u \leq q_r;$$

where:  $p_u$  = real, quality-adjusted, unregulated price;

$p_r$  = real, quality-adjusted, regulated price;

$q$  = quantity demanded (= quantity supplied).

Hence, a rate deregulation which follows an effective rate regulation regime will produce the following marketplace evidence:

$$\Delta p > 0; \text{ and } \Delta q < 0.$$

Whereas, a successful (proconsumer) rate regulation instituted in place of a deregulated market implies:

$$\Delta p < 0; \text{ and } \Delta q > 0.$$

These joint hypothesis tests seize on the intuition that price and quantity are inversely correlated along a given demand curve. While demand curve shifts will likely be involved in transitions from regulated to unregulated status, and vice versa, the output test should still be consistent with consumer welfare effects of price controls under the assumption that consumer preferences shift symmetrically. That is, while demand curves are downward sloping (and, hence, consumers are

heterogeneous), if quality changes shift consumer reservation prices proportionally, then demand curve shifts will be parallel. Under such conditions, the output test will coincide with changes in consumer surplus such that:

$$dp/dS < 0; dq/dS > 0, \text{ where } S = \text{consumer surplus.}$$

If we see rate deregulation and reregulation as reverse experiments in cable rate control, we may examine changes in subscription prices and quantities demanded following both experiences to gain a richer mix of evidence. In a newly-deregulated environment, the null hypothesis -- the view that regulation effectively constrains prices to consumers -- is that, *ceteris paribus*, price rises and quantity demanded decreases. With reregulation, price should decline and output should spurt.

#### **4.1 Price Changes Following Deregulation/Reregulation**

The most complete, continuous series of cable rate data is that collected by the Bureau of Labor Statistics: a monthly price series on a package of cable services (representative of the typical consumer's bill) since January 1984. Paul Kagan Associates publish annual data, going back to 1976, which track a number of different cable "rates": price of basic service, price of expanded basic, revenue per subscriber, and rate-based revenue per subscriber. These data are national averages. The GAO has done three surveys, which report price data (basic rates and revenue-per-subscriber) for a sample of cable systems over the 1984-1991 time period. They indicate that the four year, four month interval between 30 November, 1986 and 1 April, 1991 was accompanied by a nominal price increase of nearly 61 percent for basic cable, or 36.5% in real terms.<sup>66</sup>

(These data are reported approximately annually, not monthly.) Finally, the Federal Communications Commission conducted a survey of cable rates in Autumn, 1993, in an effort to

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<sup>66</sup> GAO 1991, p. 5. See also: Table 1. The GAO has not published standard deviations with its mean data.

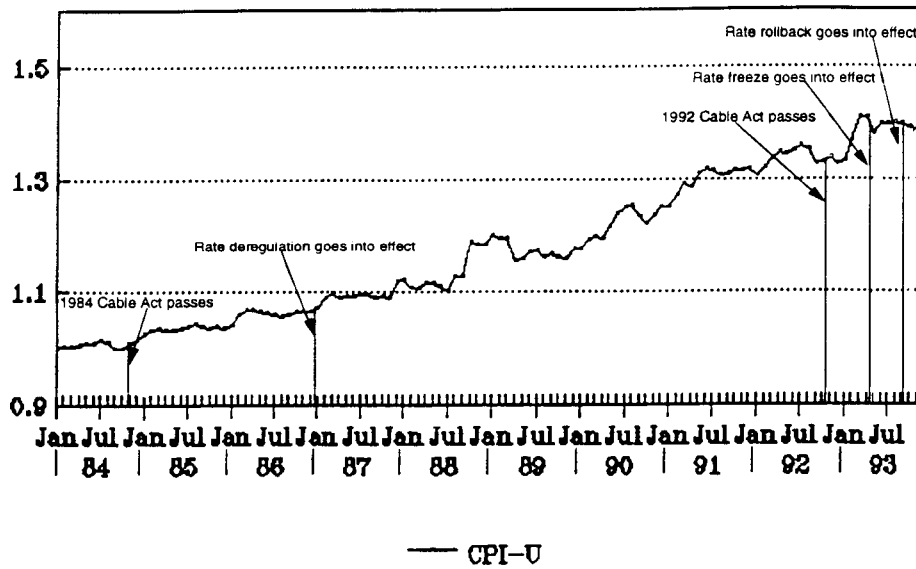
discover the results of rate regulation which went into effect on 1 September, 1993. I report on the BLS, Kagan, and FCC data in the subsections to follow; the most interesting findings of the GAO surveys are examined in the following section.

#### **4.1.1 The CPI Cable Index**

The Bureau of Labor Statistics has collected monthly data on cable rates since December 1983 (reported since January 1984). This CPI component series attempts to track a typical cable subscriber's bill, and is therefore analogous to the what the cable industry describes as "rate-generated revenue-per-subscriber." This would leave out such revenues as advertising or telecommunications bypass charges, for instance. It would, however, include pay cable, pay-per-view, installation, converter, and remote control charges. Intuitively, it appears a better measure of cable rates than simply basic cable charges.

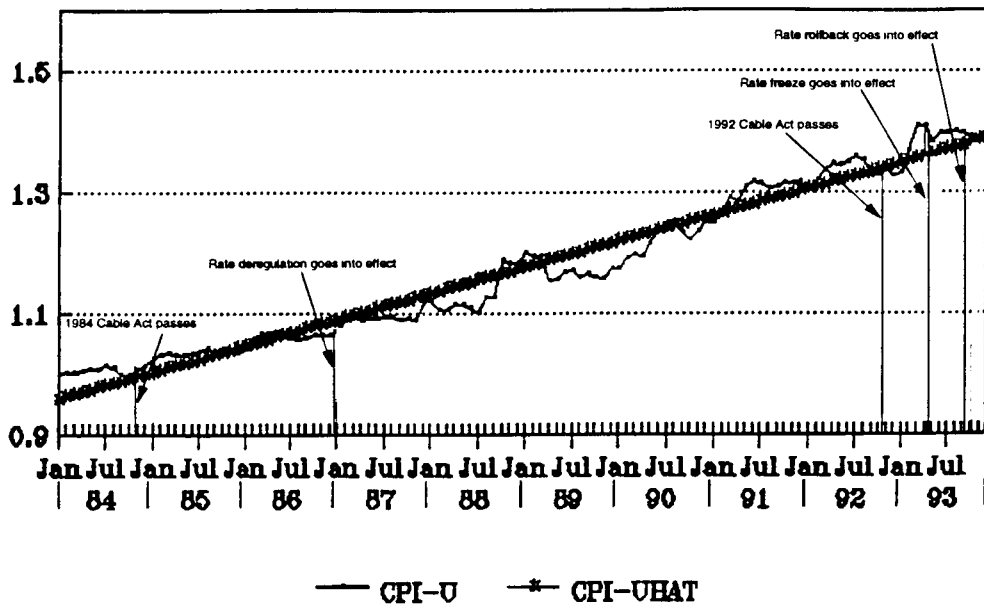
The BLS publishes various price indices, but cable rates are monitored separately only in two: the urban consumer price index, and the urban worker consumer price index. Not surprisingly, the series are highly correlated. In Figure 2, I present the urban consumer price index deflated by the corresponding (overall) CPI series to produce real cable rate changes, January 1984 -- December 1993.

**FIGURE 1**  
**Real Cable Television Prices, 1984-1993**



Jan 84 = 1.000  
 Source: U.S. Consumer Price Index-Urban.

**FIGURE 2**  
**Real Cable Rates Regressed Against Time**



Jan 84 = 1.000  
 Source: U.S. Consumer Price Index-Urban.

On Figure 1, the vertical lines indicate major regulatory regime switches, so that we may observe market pricing patterns by cable companies in response to (a) the passage of the 1984 Cable Act (30 October, 1984); (b) deregulation of systems serving 99% of U.S. cable subscribers (29 December, 1986); (c) passage of the 1992 Cable Act over President Bush's veto (5 October, 1992); (d) FCC initiation of a rate freeze at levels prevailing 30 September, 1992 (plus inflation), pursuant to that Act (5 April, 1993); (e) a 10% rate rollback as mandated by the FCC, pursuant to that Act (1 September, 1993).

From a naked eye examination of the BLS-charted price series, it is difficult to see where rate regulation has had a significant impact. Prices for the overall cable package do not rise dramatically in the wake of deregulation and do not fall markedly with the advent of reregulation. Indeed, while prices appear to level off during 1993, they also appear to rise sharply just prior to initiation of the FCC's "rollbacks" in April 1993. However, the slope of the line -- the rate of increase in real cable rates -- appears to increase shortly after deregulation.

If the real price of cable is regressed against the single variable, time, as seen in Figure 2,<sup>67</sup> three things become clearer:

1. The upward trend in real cable rates is pronounced throughout the period. As discussed below, the observation of *rising* prices over the several-year deregulation period is inconsistent with the null hypothesis, in that price increases resultant from relaxation of regulatory constraints fly-up to unconstrained profit-maximizing levels and, *ceteris paribus*, stay there. Here prices appear to be gradually rising throughout the decade (even prior to deregulation).

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<sup>67</sup> The form of the regression is:  $RCR_i = \alpha + \beta Month_i + e_i$ , where  $RCR_i$  = real cable rate for month  $i$ ;  $Month_i = 1(\text{Jan. 1984}), 2(\text{Feb. 1984}), \dots$ ;  $e_i$  = error term.

2. No obvious trend breaks occur at points demarcating deregulation or reregulation.

To determine whether the data behave as they look, the following model was estimated:

$$RCR_i = \alpha + \beta_0 MONTH + \beta_1 DEREGLAW + \beta_2 DEREGLAW + \beta_3 REREG + \beta_4 ROLLBACK + \varepsilon_i;$$

where

$$RCR_i = \text{real cable rate for month } i$$

$$MONTH = 1(\text{for January 1984}), 2(\text{February 1984}), \dots, 0 \text{ otherwise}$$

$$DEREGLAW = 1 \text{ if } MONTH \geq 11(\text{November 1984}), 0 \text{ otherwise}$$

$$DEREG = 1 \text{ if } MONTH \geq 37(\text{January 1987}), 0 \text{ otherwise}$$

$$REREG = 1 \text{ if } MONTH \geq 112(\text{April 1993}), 0 \text{ otherwise}$$

$$ROLLBACK = 1 \text{ if } MONTH \geq 117(\text{September 1993}), 0 \text{ otherwise}$$

The results are displayed in Table 2.

The only dummy co-efficient which is statistically significant is the co-efficient on the REREG variable,  $\beta_3$ , and it is significantly *positive*. That is, prices increase from trend about the time reregulation was instituted. From examining these data it is clear that the fly-up in prices occurs in late 1992 or early 1993 -- prior to rate controls being officially imposed on 5 April, 1993. As for the impact of deregulation, there is actually a negative (but insignificant) co-efficient on the January 1987 deregulation date. Deregulation does not appear to send overall cable package prices flying-up, nor does reregulation quickly push them down.

3. The slope of the price line appears to increase after rate deregulation. If we break the data at the starting point for deregulation -- January 1987 -- and follow it up to the advent of reregulation -- April 1993 -- we can test for the hypothesis that the slope of the price-

against-time line changes via a Chow test.<sup>68</sup>

The Chow test divides the data and considers whether the coefficients for the respective sub-samples are, given some confidence interval, distinguishable. Running such a test on the CPI urban cable series regressed against time (alone) and truncated as indicated, results in a highly significant Chow-statistic (see Table 3). This result is impervious to the precise date one designates for the end of the deregulation period (December 1992, March 1993, September 1993, or December 1993). There is a slope difference between the regulated and deregulated periods at the 95% confidence level. The evidence strongly suggests that the growth in cable rates increased post-deregulation.

As prominently as the argument figured in the public debate over cable reregulation,<sup>69</sup> it is interesting that the fact that cable prices rose steadily (in real terms) throughout the deregulation period was itself evidence that something more complicated than a deregulation-induced fly-up in prices was at work. The continuing price increases in the post-deregulation environment suggest, in fact, that demand was shifting outwards over time. The most straightforward explanation of this is that new channels were added to basic cable packages while more desirable programming was being telecast on existing channels. This can explain the annual price increases in excess of inflation beyond 1987 and 1988, and is consistent with the rapidly rising cost of programming inputs into cable service. Moreover, it is the only explanation consistent with the rising penetration rate.

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**68** The end of deregulation might be thought of as effectively occurring in April 1993 (when the FCC instituted a rate freeze) or September 1993 (when the Commission instituted a rate roll-back). Both time frames are included in the Chow test, as well as December 1992 and December 1993.

**69** The standard pro-regulation argument was made by then-Senator Albert Gore (D-TN): "According to a 1991 GAO study, monthly rates for the lowest priced basic service increased by 56 percent from the beginning of deregulation in December 1986 to April 1991... [M]onthly rates for the most popular basic cable service increased by 61 percent... These rates of growth are three times that of inflation" (*Congressional Record--Senate* [30 January, 1992], p. S 662).

#### **4.1.2 The Pattern of Basic Rates and Revenue/Subscriber Over Time**

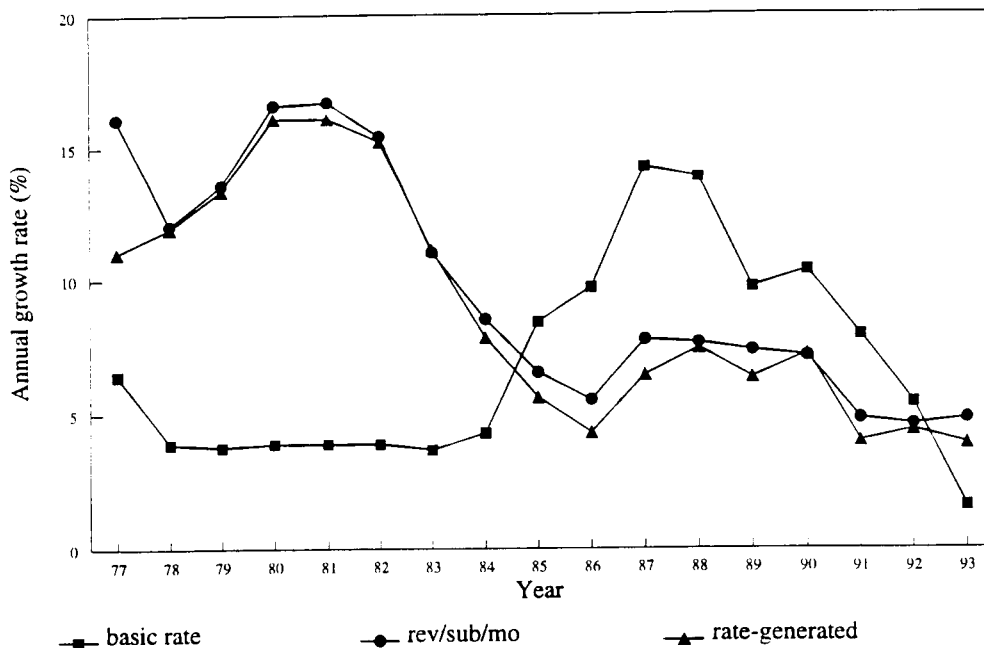
The industry data describing cable rate changes over the 1976-1993 period<sup>70</sup> tell a story that is also at odds with the popular version of a price fly-up in the wake of deregulation (1987). What is striking about these data, listed in Table 4 and displayed graphically below, is that, while regulation/deregulation appears to have some impact on the rate charged for basic cable, the overall package price of cable service seems only modestly correlated with the regulatory regime. In fact, I assert that there is a connection between rate regulation and the overall, quality-adjusted price of cable television, but that it is indirect. That is, the regulatory regime influences the level of business risk, this influences investments in program and infrastructure quality, and these, in turn, influence consumer demand for cable television service. This implies that whatever regulatory constraints are imposed are dominated by the decisions of cable suppliers to invest or disinvest in network quality.

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**70** These are collected by Paul Kagan Associates, an industry consulting firm which publishes various newsletters, trade journals, and databases. The data are reported to Kagan researchers voluntarily by the firms, although public SEC filings, FCC data, or other sources are used directly and indirectly. CPI data are collected by field agents of the Bureau of Labor Statistics who make personal visits to cable sales office to inquire about rates.



### U.S. Cable Rate Growth, 1977-93



Source: Paul Kagan Associates, Cable TV Investor (31 March, 1994), p. 9.

It can be observed from the price data, that while large increases in basic cable rates followed the 29 December, 1986 deregulation, that the largest annual increases in program costs for the typical cable customer came in the early 1980s -- as new premium services were coming on line and being aggressively marketed by cable firms. The revenue-per-subscriber growth rates do increase slightly after deregulation, but stay at about the 1987 level for four years. It is only after 1990, the year which saw cable re-regulation legislation nearly pass the U.S. Congress, that average price increases for the total package decline. This evidence is inconsistent with the view that price controls were constraining operators'

pricing directly, but clearly supportive of the hypothesis that deregulation encouraged firms to invest in new services and capacity, thusly raising demand over time (as the new services became available).

Finally, in the first year of reregulation, it appears that price increases were moderated for basic cable, but had little or no effect on the overall package price: revenue-per-subscriber and even rate-generated-revenue-per-subscriber show increases roughly equivalent to those experienced under the final two years of deregulation.<sup>71</sup> The slowdown in cable package prices pre-reregulation also suggests that, with network upgrades riskier due to the threat of reregulation, quality -- and therefore consumer demand -- was growing more slowly.

### **4.1.3 The 1993 FCC Rate Survey**

After instituting what was billed as a "10 percent rate rollback" on 1 September, 1993, press reports of *rising* cable rates fueled a public backlash. A trade journal headline read: "Markey: Rate Increases Will Prompt Hearings,"<sup>72</sup> and key congressmen were reported to be "incensed by press reports that some cable rates would rise despite reregulation."<sup>73</sup>

At this point, both the FCC and the cable industry were being pressed to demonstrate that prices were not rising. The acting-chair of the Commission, James Quello, clearly signalled the industry by saying: "I think an explanation is in order. Based on our own calculations, overall cable rates will go down. That's the story the cable industry has to get

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<sup>71</sup> The rate controls were officially imposed on 5 April, 1993 with a rate freeze based on rates (plus inflation) as of 30 September, 1992. The controls were tightened with an "up to 10% rate rollback" imposed by the FCC on 1 September, 1993. The price data are weighted averages for the 1993 calendar year.

<sup>72</sup> Vincente Padeloup, "Markey: Rate Increases Will Prompt Hearings," *Cable World* (6 September, 1993), p. 1.

<sup>73</sup> *Ibid.*

out."<sup>74</sup> The National Cable Television Association was ready with the story that its members had lowered prices, and were losing billions of dollars of revenue pursuant to imposition of the rate regulations.<sup>75</sup>

It was in this context that the Federal Communications Commission decided to survey the 25 largest cable MSOs in an effort to quickly determine how rates had changed between April 1993 (when the rules were announced) and the following September (when the rules were implemented). The survey was confusing, in that 11 of the 25 operators responded in a manner that, given radical restructuring of their basic packages along with substantial shifting of program services to *à la carte* status, the FCC was unable to determine what had happened to the price charged for a given package of services.<sup>76</sup> The FCC delayed release of the survey, originally scheduled for 20 October, 1993, and issued further clarifications in an attempt to account for the changing nature of the basic package. The results were finally released on 22 February, 1994 (see Tables 5 and 6). Yet even before the public release date, a cable industry spokesman was (triumphantly) declaring defeat: "The preliminary survey results show that the FCC's rate-regulation rules have achieved their goal. Regulated rates are lower and consumers are benefiting."<sup>77</sup>

Cable industry spin aside, serious problems are encountered in interpreting these data. First, the level of complexity in reporting on rate schedules is large, which is why the Commission itself was stymied in its survey efforts for months. Many judgment calls must

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<sup>74</sup> *Ibid.*, p. 36.

<sup>75</sup> This was a 180-degree reversal of the story it had nationally advertised prior to passage of the Cable Act of 1992, when it claimed the measure would raise rates, but it was clear where the industry's interests lay: unless cable operators appeared to have been hit and hit hard by reregulation, tougher rules would be likely.

<sup>76</sup> Vincente Padeloup, "Playing by the Numbers: FCC Holds Survey Results," *Cable World* (25 October, 1993), p. 1.

<sup>77</sup> *Ibid.*, p. 5.

be made in producing rate changes when the underlying package is changing in size and quality; in this survey no account is made, for instance, for channels substituted in or out of the basic package.<sup>78</sup> Replacing C-SPAN1 or Discovery with a home shopping network would not be recorded as a pricing change on this survey.

Second, the time frame is extremely problematic. There were widespread reports that cable operators hurriedly raised prices soon after the enactment of the Cable Act in October 1992,<sup>79</sup> and the CPI price index for cable service suggests that prices did increase rapidly about this time. If prices flattened or even declined during the April to September 1993 period, interpreting the effect of reregulation is still problematic.

Abstracting from all such problems, the survey indicates that the average gain (*i.e.*, price reduction) per subscriber was somewhere between 1.8% for cable-ready TV customers and 3.3% for those subscribers with non-cable-ready sets (each subscribing to expanded basic, one converter, one remote, and HBO, adjusted for *à la carte* network shifting). The survey does not fully account for additional charges for unregulated services, which may wipe out even these modest savings. TCI's first quarter 1994 report notes that two-thirds of its price reductions for regulated service were offset with higher charges for unregulated services; the totality of these changes is not likely captured solely by the inclusion of the HBO rate. The FCC survey also indicates that whatever savings accrue are skewed towards those customers with multiple cable TV outlets; presumably, upper income households.

In any event, the entire survey is suspect on grounds well established in the regulation literature. For the same reason that public utility commissions do not simply ask a telephone

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**78** Or, most obviously, for changes in quality on a given cable network.

**79** "Just 10 weeks after Congress passed a law to grant cable subscribers relief from years of escalating rates, many systems are racing to impose a new round of increases, surcharges and pricing packages before the new law takes effect" (Mark Robichaux, "Cable Concerns Are Scrambling to Raise Rates," *Wall Street Journal* [14 December, 1992], p. B1).

company to map out its average cost curve, and believe the answer, the cable firm answering the FCC's questionnaire was essentially responding to an I.Q. test. It enjoyed a huge incentive to shade its answers towards a showing that its rates had been lowered in response to regulation.<sup>80</sup> Given the large area for discretion in interpreting rate schedules, firms were surely driven to report those customers' rates in each class which had shown the largest reductions. Adding to suspicions of bias is the fact that the FCC survey results are contradicted by other industry sources (see above).<sup>81</sup>

#### **4.1.4 Unregulated System Price Increases Following Deregulation**

The GAO's survey conveniently includes data from both newly-deregulated systems (as of 29 December, 1986) and already-deregulated systems. These latter comprised some 24% of the systems surveyed (GAO 1990, p. 4). Comparing the price increases of the deregulated systems with those of the systems which were not deregulated (because they were unregulated at the beginning of the test period) is an opportunity to use the latter subsample as a control group. In that these systems were not released from regulatory constraints, their pricing pattern does not include the direct effects of deregulation.

The comparison is highly informative (see Table 7). Unregulated systems charged about 6.6% more for basic service at the end of the regulated period, although they received just 1.5% more in revenue per subscriber, a measure of the price which includes all ancillary, unregulated services. Moreover, this latter differential seems to have shifted back and forth during the regulated period: in 1984, unregulated revenue/subscriber is slightly *below* the

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**80** "A regulated firm will use its private information in the way most advantageous to the firm.... Why not simply ask the firm what its average cost curve is (or should be)? One reason is that the firm may lie to regulators..." (Katz & Rosen 1991, p. 504; emphasis in original).

**81** Perhaps the most cogent analysis of the operative forces at work was delivered by telecommunications attorney Nicholas Allard: "The dirty little secret is that both the FCC and cable operators have the same interest: to prove that the rules work and that rates don't go up" (Vincente Padeloup, "Can the FCC Cope?" *Cable World* [23 May, 1994], p. 172).

regulated system mean. During the first three years of deregulation, deregulated basic rates increased more: 42% to 32%.<sup>82</sup> This brings them roughly into parity with unregulated systems. Revenue per subscriber, however, *stays* close to parity. The increase in basic charges seen in the regulated systems (relative to non-deregulated systems) does not result in higher overall charges to consumers. It appears then, that the price increases reported by GAO simply come out in the wash, as other charges are decreased to offset them. Subscriber cost increases are not observed, but price restructuring is: basic charges up, other charges down, tiers collapsed.

## **4.2 Cable Output Trends Across Regulation/Deregulation**

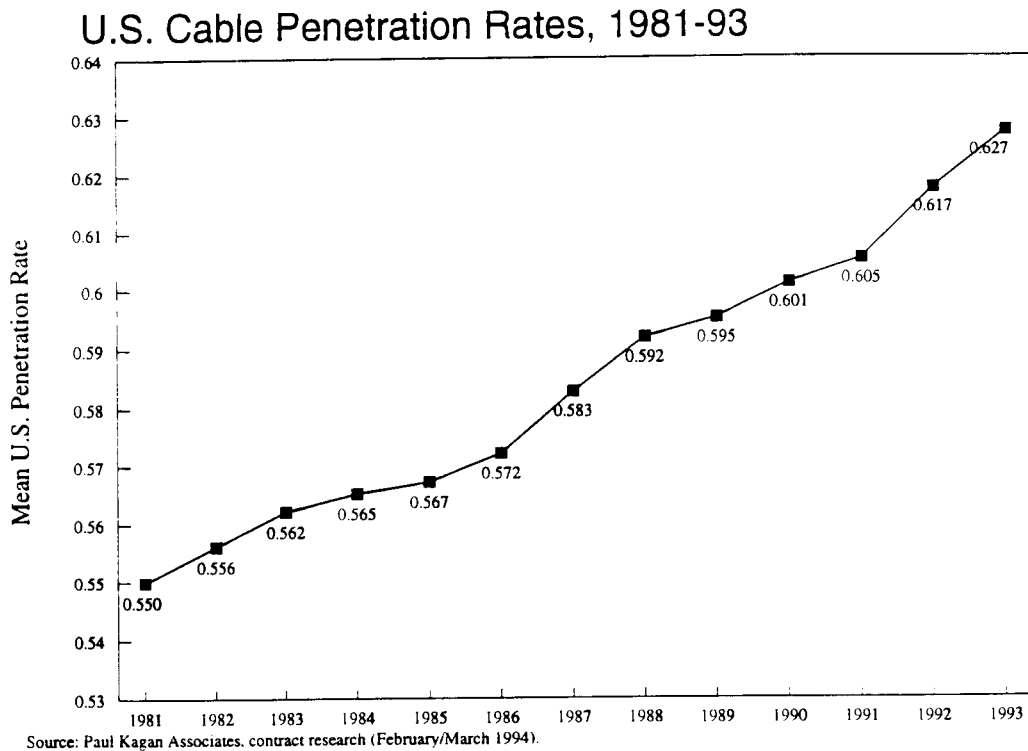
Cable rates clearly increased in the post-deregulation era, but in a pattern inconsistent with the hypothesis that rate regulation was effectively constraining market power. Moreover, the GAO surveys found that the mean number of channels on basic cable packages increased so substantially during the deregulation period that real price per channel was virtually unchanged. It is predicted in theory and apparent from the evidence that quality changes with regulation.

Under the assumption that demand curve shifts in response to quality changes are parallel (out or in), it is clear that penetration rate changes are perfectly correlated with consumer surplus changes. When price and quality rise (or fall) together, the net effect on consumers can be gleaned from whether penetration rises or falls. An increase in penetration indicates that consumers consider the price-quality package preferred in the instance where penetration is rising; vice versa when penetration declines. Looked at in a pragmatic, policymaking sense: If rate

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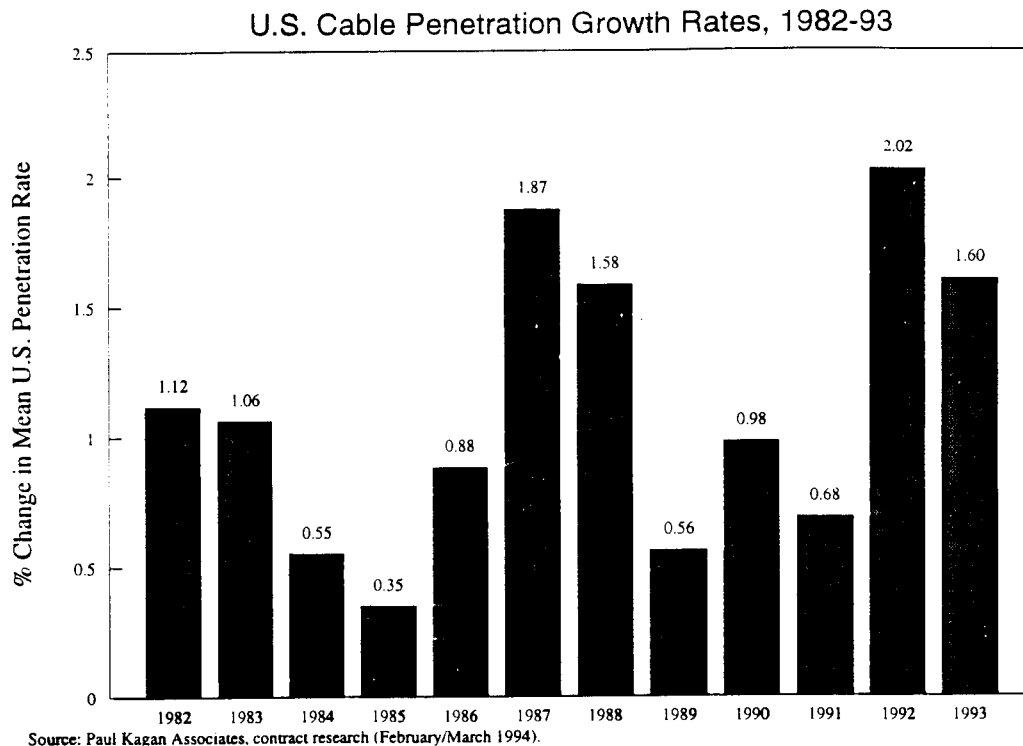
**82** This is close to the 10.22% higher prices seen in newly deregulated systems in California during the first year of deregulation, using non-deregulated systems as a control. (See: Hazlett 1991.)

regulation of cable "works." at a minimum it ought to be able to expand the number of households which volunteer to pay for the regulated package above the number who would elect to subscribe to the unregulated package.<sup>83</sup>



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**83** This abstracts from the costs of regulation and long-run dynamics of regulated markets, factors which tend to lower the value of rate regulation. In other words, this is a necessary, if insufficient, condition for rate regulation to be successful.



The evidence examined is aggregate U.S. data on mean penetration rates for cable systems.<sup>84</sup> While the data on penetration rates is only available annually, and appears to be reliable only from 1981, the trend of the U.S. mean penetration rate reveals an interesting pattern given the regulatory regime switches of the past decade. In the wake of deregulation (1987), the U.S.

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**84** Paul Kagan Associates supplied these data as contract research in March 1994. They are slightly different than what is reported elsewhere by Kagan. For instance, in Table 8, cable penetration growth appears to increase somewhat in 1993; whereas in Table 9 (reporting data for the top 50 MSOs, which serve about 85% of U.S. subscribers) cable penetration growth undergoes a sharp drop in 1993. The data used in these figures and in the penetration regression estimation are preferred because of two factors: they calculate penetration using identical time periods for "number of subscribers" and for "homes passed," and, secondly, they encompass the total U.S. market.



penetration rate does not fall, but increases.<sup>85</sup> It appears that this increase is relative to trend, as the growth rate also increases. In response to the first year of rate reregulation, the pattern reverses itself: growth falls relative to the last year of deregulation.

To allow for macroeconomic influences, and to test the hypothesis that rate regulation lowers effective prices to consumers, I estimate the following regression equation:

$$\Delta PENRATE_t = \alpha + \beta_0 \Delta PERS_t + \beta_1 \Delta HP_t + \beta_2 YEAR_t + \beta_3 DERE G + \beta_4 RERE G + \epsilon_t,$$

where:

$\Delta PEN$  = percent change in U.S. cable penetration rate during year  $X$  (100);

$\Delta HP$  = percent change in number of Homes Passed during year  $X$  (100);

$\Delta PERS$  = percent change in personal spending during year  $X$  (100);

$YEAR$  = 1 if 1981; 2 if 1982... 13 if 1993;

$DEREG$  = 1 if 1987 or beyond;

$RERE G$  = 1 if 1993.

The change in Homes Passed may lower aggregate penetration in that it takes a year or two for new areas to be fully marketed. Hence, if much recent building of cable plant has taken place, the penetration rate may be lowered due simply to cable system lifecycle effects. The change in personal income is a proxy for changes in aggregate demand; presumably, cable penetration grows when income grows. A time trend variable is included, although the effect of time on the rate of change (as in the endogenous variable) could well be negative simply because the overall trend (as seen in the graphic) is one of increasing penetration. (Growth rates

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**85** There is some disagreement over cable penetration (and other) numbers, but the alternative sources appear to agree on their general trend. According to an FCC study, average basic cable penetration was 55% in 1980, 56.7% in 1985, and 61.4% in 1990 (Setzer & Levy 1991, p. 68). The GAO (1989) finds cable penetration increasing from 55.5% as of December 1986 to 57.1% as of October 1988.

slow as the universe of existing subscribers increases and as the universe of non-subscribers diminishes, *ceteris paribus*.) And two dummy variables are included. DERE = 1 during 1987 and thereafter, and = 0 prior to that; while RERE = 1 during 1993, and = 0 prior to that. These should reveal what shifts in penetration are associated with a switch in regulatory regime.

The results, summarized in Table 10, reveal two statistically significant variables. The effect of personal income growth appears to be positively correlated with changes in penetration, as predicted. The coefficient on DERE is also significant and *positive*. This evidence tends to reject the null hypothesis, that regulation lowers effective prices to consumers (and therefore increases output). While rate regulation in 1993 does not appear to have affected the trend in cable penetration, the deregulation of rates in 1987 is associated with an increase in cable subscriptions. This adds statistical substance to the devastating headline on regulatory effectiveness delivered in a 23 May, 1994 *New York Times* headline:

*CABLE INDUSTRY SHIFTS APPROACH AS GROWTH SLOWS  
'Basic' Services on Wane  
Instead, Operators Promote  
'à La Carte' Programming  
-- Rate Limits Cited*

### **4.3 Cable Ad Revenues and Basic Rate Regulation**

If rate regulation is working to squeeze price-cost margins at the retail distribution level, it is clear that advertising revenues of cable operators<sup>86</sup> would be positively correlated with the intensity of regulation. In that advertising rates have never been regulated, the logic is straightforward: Anything which induces cable operators to price more competitively and, therefore, gain wider market shares, should add to cable television's attractiveness as an advertising medium. The logic is reinforced by the fact that cable television has less market

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<sup>86</sup> The cable television industry sells advertising spots on local systems, on a regional basis (in cooperative ventures formed by cable systems in a city or television market), and nationally. These spots are carried on basic channels; premium channels are commercial-free. Rate regulation, then, applies directly to the advertising medium on cable: basic program services.

power in the national or regional advertising market than it possesses in local video markets. and by the fact that ad revenues have constituted less than 5% of total cable industry receipts. It is a cross-check on the penetration evidence, in essence, to examine the time profile of advertising revenues in the cable industry.

Rate deregulation is not associated with a downward shift in cable ad revenues; revenue growth in the 1987-1990 period appears to accelerate (see Table 11). While the trend of annual increases in percentage terms is generally declining, it is apparent that this is due to an expansion of the base rather than a reduction in dollar revenue growth. During the year of deregulation, however, both the absolute size and the rate of growth of revenue increases jump up over 1986 levels -- the last year of rate caps prior to deregulation. With the advent of reregulation in 1993, revenue increases are larger than in 1992 even if the increase is slightly lower in percentage terms. But the economic recovery, which hit the advertising sector especially hard, is likely the motivating factor. At the depths of the recent recession, 1991, the annual rate of cable advertising increase was the lowest ever: 13.2%. In 1992, cable ad sales climbed \$478 million from the previous year's level, sharply up from the \$335 million in cable ad growth for 1991. The 1993 increase of \$543 million would appear to be a continuation of this trend.

Also at work is the lagged effect of ratings on ad billings. The cable trade press reports that the 1993 season was the worst for cable viewing share growth in a decade. In mid-1994 the cable operators *were having to make refunds* to advertisers for failing to meet their ratings targets the previous year. While ratings growth rebounded in 1994, cable executives squarely blamed the 1993-94 ratings decline on re-reregulation and the retransmission consent/must carry

provisions contained in the 1992 Cable Act.<sup>87</sup> Thus, the advertising sales experience under reregulation is inconsistent with the hypothesis that rate regulation reduced the quality-adjusted price of cable service.

#### **4.4 Quality Changes After Deregulation/Reregulation**

We have already examined evidence concerning rate regulation's effect on quality indirectly. In the price data we saw that basic prices have been constrained by rate regulation, even if the total package has not. That penetration is not positively correlated with the existence of rate regulation reveals that quality is inversely related to the existence of rate regulation. Elsewise, the lower (regulated) basic rates would result in higher penetration rates, which they do not appear to do. In this section, data is presented on more direct measures of quality.

##### **4.4.1 Package Size (Number of Channels on Basic)**

There is a 30 percent increase in the size of the basic cable package, as measured in channels, between December 1986 and April 1991 (Table 1). Hence, the price-per-channel increase amounts to just 20.5% over the 52-month interval, only slightly above the 17.8% rise in the consumer price index. Importantly, the number of satellite programming networks available to cable operators nearly doubled -- from 43 to 75 -- between 1983 and 1987 (see Table 12), an impressive expansion of the video programming sector which appears to be driven by heightened derived demand post-deregulation.

In fact, the pattern revealed in Table 12 is informative. Two deregulations appear to boost cable network formation: The first (eliminating controls on programming) leads to a boom in 1978-81 (when national satellite video nets increase from 8 to 38); the second, federal rate decontrol, promotes a boom in 1983-87 (when basic networks, specifically, jumped from 31 to 59). It appears safe to conclude that cable television programming

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<sup>87</sup> Joe Mandese, "Big 3 TV Networks Lose Ratings to Cable Growth," *Advertising Age* (11 July, 1994), p. 30.

was becoming both more diverse and more popular with viewers following each round of deregulation. This reinforces the GAO evidence that basic packages were increasing in channel size and suggests that basic cable quality was rising *pari passu* with price. This, in turn, explains how penetration could increase during a period of rapid price escalation.

Under reregulation there are incentives to add channels because rate controls are levied on a per-channel basis. Cable operators did report an increase in mean basic channels by about 4.4% during 1993 (FCC 1994, p. 20). But there is also an incentive, supplied by the same price cap scheme, to substitute cheaper programming in place of existing video networks. By June 1994, C-SPAN, a commercial-free public affairs network, had been dropped entirely or reduced to part-time status in 4.2 million U.S. cable homes.<sup>88</sup> While C-SPAN is not one of the more expensive networks, it has low ratings and does not generate local advertising revenues.<sup>89</sup> Independent UHF broadcast stations are added to basic packages to comply with "must carry" rules contained in the 1992 Act and have the spillover effect of reducing the per-channel rate, while home shopping networks are profitable in the sense that they also lower the per-channel basic rate (satisfying regulators) even as they pay local cable operators for carriage (by splitting sales commissions). In fact, satellite-delivered home shopping networks are thriving since the 1992 Cable Act, and several new shopping channels are being launched.<sup>90</sup>

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**88** Richard Zoglin, "Cable's Big Squeeze," *Time* (27 June, 1994), pp. 66-7. See also: James Lardner, "The Anti-Network," *The New Yorker* (14 March, 1994), pp. 49-55.

**89** Basic cable networks routinely allow cable systems some percentage of local advertising sales.

**90** K.C. Neel, "Home Shopping: Wall Street's Darling," *Cable World* [27 September, 1993], pp. 1, 79. Two cable shopping network stocks, QVC and Value Vision, were cited as outstanding performers, gaining 62% and 586%, respectively, from the start of 1993. New video shopping services include one being launched by Macy's (*Ibid.*), Fingerhut Company's "S" channel ("Marketer to Launch Service for Cable Home-Shopping," *Wall Street Journal* [23 March, 1994], p. B6), and Time Warner/Spiegel's "Catalog 1" (Stephanie Strom, "Mail Order Shifts Its Pitch to Cable," *New York Times* [21 March, 1994], pp., C1, C5). See also: Thomas W. Hazlett, "How Home-Shopping Became King of Cable," *Wall Street Journal* (14 July, 1994), p. A14.

In general, incentives to blunt the impact of per-channel rate rollbacks may produce positive impacts on basic cable quality by prompting operators to add channels, thereby giving some upstart networks additional audience coverage.<sup>91</sup> The net effect of such incentives on demand for cable programming will be best observed by examining programmer reaction to rate controls, below.

#### **4.4.2 Cable System Programming Expenditures**

Input expenditures (cable system payments to basic programmers) also suggest quality improved post-deregulation not just in numbers of channels but in the desirability of the programming on new and existing cable channels. Basic cable program spending amounted (nationally) to \$255 million annually (\$8.12 per subscriber) prior to deregulation in 1983; by 1992, operators were spending nearly \$2 billion (or \$35.14 per subscriber) on these key inputs, a proportionate increase far in excess of the increase in channels. (See Table 13.) On a per-subscriber basis, this constituted a nominal increase in program costs of 333%.

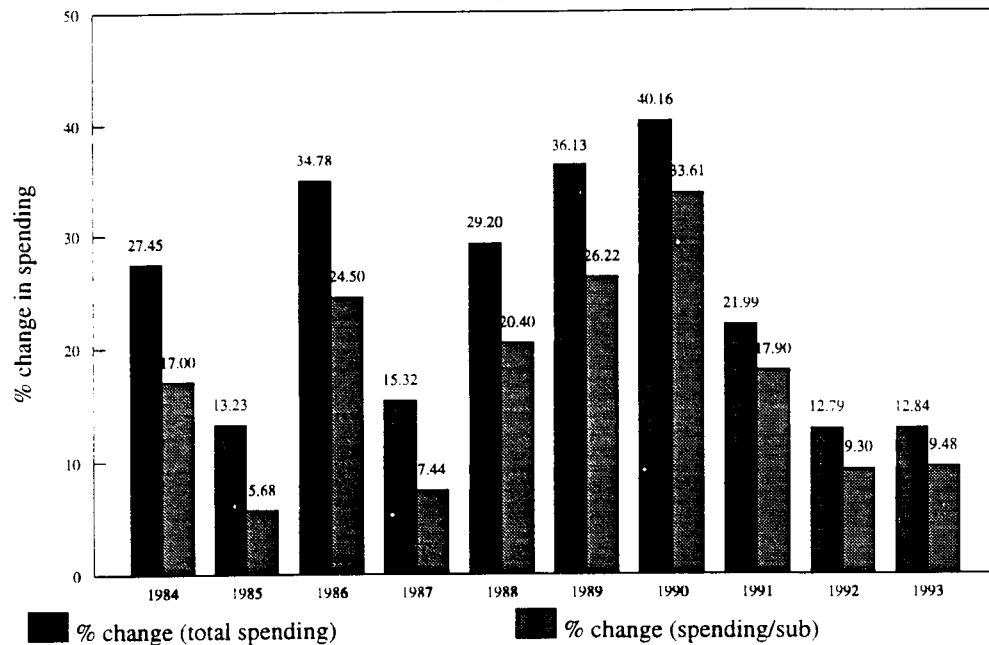
Basic cable program expenditures per subscriber continued to grow in the 1991-93 period, but the growth rate dropped dramatically. While increases of 26% and 34% were posted in 1989 and 1990, gains of 18%, 9% and 9% were posted in 1991, 1992, and 1993, respectively.<sup>92</sup> This pattern is consistent with the view that reregulation legislation, first becoming a serious possibility in late 1990, chilled the industry's long-run expansion plans. It is also consistent with the view that quality increases were driving rate increases through the deregulation period; it is striking that increases in the revenue-per-subscriber pattern are so similar to the basic cable program spending profile. (See graphic.)

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<sup>91</sup> "Operators facing basic rate regulation Sept. 1 continue adding small, less expensive basic cable networks to system lineups. The latest beneficiary: Court TV, which says it will add 3.5 million new homes by the end of the year." (Toula Vlahou, "Regulation Bonus," *Cable World* [30 August, 1993], p. 46.)

<sup>92</sup> The pattern in total spending on basic programming is similar.

Basic Programming Expenditures by Cable Ops  
 (% changes, year-on-year)



As basic spending takes off in the late 1980s, presumably because of the added pricing certainty of deregulation plus a lag, it is observable that the typical cable customer's bill also experiences large increases. From 1987-1990, annual price increases for the cable package (measured as revenue/sub/month) was over 7% (7.1% to 7.7%) each year, about double the inflation rate. (Slightly lower annual increases, 6.4% to 7.2%, are seen if one examines rate-generated-revenue/sub/mo [Table 4].) Basic rate increases, of course, are much higher still: 9.7% to 14.2% during the 1987-90 time frame. Yet, as basic spending increases slow, so does the rate of price increase. All three rate categories show markedly smaller increases beginning in 1991 -- well before the existence of rate regulation under the 1992 Cable Act. These parallel trends in input spending and output pricing strongly suggest that quality enhancement was driving demand shifts which, in turn, resulted in price

increases. And it is entirely consistent with the explanation given in the trade press that regulatory constraints tended to discourage the formation of new satellite networks (see below).

### **4.4.3 Viewing Shares**

Quality may be more definitively evaluated, perhaps, by examining viewing shares. This alternative measure of output takes into account inframarginal consumers. In Table 14 it is evident that viewing share growth for basic cable networks was very strong during the deregulation epoch.

Viewing shares within cable households abstract from changes in the number of households subscribing to cable. These data reveal that while the all-day average viewing share of basic cable networks was 17 in 1983-84, the last season prior to the 1984 Cable Act, the share more than doubled, to 35, by 1990-91.<sup>93</sup> As measured by consumers allocating their time, the quality of basic cable television -- as a bundle of program services -- about doubles during the deregulation period. Whether this constituted an improvement from trend is difficult to discern. Paul Kagan Associates provides audience ratings for cable networks only back to 1983. It should also be remembered that, due to the deregulation of cable program content by the courts and the FCC in the mid- to late-1970s,<sup>94</sup> there was a bubble in cable network growth during the period preceding rate decontrol.

If viewing shares are seen as an output measure, it may be more instructive to look at consumer choices within the universe of all U.S. (not just cable) television households, shown in Table 15. Here, the pre- to post-deregulation increase is from a 9-share to a 24

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**93** "Shares" refer to that percentage of households watching television which are tuned to a particular type of programming. Because some homes tune into multiple TV sets simultaneously, these shares generally sum to slightly more than 100.

**94** In the 1960s, the Federal Communications Commission had enacted anti-cable rules in order to protect television broadcasters from competition. (See Besen and Crandall 1981.)



(1983/84 to 1991/92). While the upward trend in homes passed would tend to increase cable viewership during this period even in the absence of rate deregulation, it is striking that even with higher nominal prices basic cable nearly *tripled* its share of TV viewing time in the wake of deregulation. As broadcast network affiliate viewing shares were in virtual free fall during this period, it is easy to ascribe the declining popularity of broadcasting to the increasing attractiveness of cable. Indeed, broadcasting interests have repeatedly done so (Auletta 1991). This is clearly evidence of output expansion by cable, offering consumers more attractive alternatives to those previously enjoyed, and it appears to be at least partly attributable to rate deregulation.

This view is buttressed by the fall-off in cable ratings growth under reregulation. While only one full season under the FCC's rate regulations has been completed, the cable trade press reports that viewership growth was stagnant for the first time in a decade. While other market forces may have been involved, cable industry executives attributed a large part of the drop-off to the effects of the 1992 Cable Act (including both must-carry and rate regulation). In trumpeting Spring 1994 ratings which saw cable growth resume, the official cable industry line was that two special events -- the Winter Olympics and re-regulation -- had combined to deliver a one-time downward shock to ratings growth.<sup>95</sup>

#### **4.4.4 Detiering, Retiering & A La Carte**

Another predicted result of rate regulation is observed in the creation and elimination of tiering schemes. Under the price regulations imposed by local governments, firms were often able to shift desirable channels off the regulated package and into unregulated "expanded basic." When decontrol came, industry analysts instantly proclaimed a shift away from tiering. "Expanded Basic" subscribership reached a peak in 1986 with 6.6 million

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<sup>95</sup> Joe Mandese, "Big 3 TV Networks Lose Ratings to Cable Growth," *Advertising Age* (11 July, 1994).

subscribers, declining to 3.5 million subs in 1989, and then rising rapidly in the threat of reregulation to 7.1 million in 1990 and 13.8 million in 1992 (before jumping, in the wake of reregulation, to 24.6 million in 1993).<sup>96</sup>

This detiering/retiering pattern is also seen in the GAO data (Table 1), which the agency associated with rate regulation:

*The results of our most recent survey indicate that there was a sizable decrease in the number of systems offering only one tier of service...*

*Some of the legislative proposals introduced in 1990 would have generally restricted rate regulation to only the lowest priced basic service (GAO 1991, p. 6).*

The congressional debate over reregulation shows repeated references to the problem of retiering. For instance, the Senate Report on 1990 rate control legislation warns against allowing "cable operators to use monopolistic conditions triggering regulation to retier programming to avoid regulatory scrutiny."<sup>97</sup> Several members of the House and Senate raised the retiering issue in debate over the 1992 Cable Act, as well.

In response to the advent of reregulation, the industry has made good on the prediction that repackaging would be a logical response to rate controls. Currently, trade publications are filled with advertisements for premium programming services which highlight the fact

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**96** These data are for the top 50 MSOs. (Paul Kagan Associates, *Cable TV Investor* [12 February, 1993], p. 5; and Table 9.)

**97** "Report on S. 1880, The Cable Television Consumer Protection Act of 1990," Senate Committee on Commerce, Science, and Transportation (19 July, 1990), p. 61.

that operators can escape rate regulation by diverting channel space in their favor.<sup>98</sup> Typical is the double-full page ad spread for Encore, which introduced its six-channel mini-pay line-up thusly:

***The #1 source of unregulated cash flow.***  
*Introducing channels and channels of unregulated cash flow. Encore Thematic Multiplex: six of your subscribers' favorite themes [Love Stories, Westerns, Mystery, Action, True Stories & Drama, and Tweens], each with its own channel. So your subscribers can always find what they're in the mood to watch. And Encore Multiplex delivers unregulated cash flow without the hassles of á la carte.*<sup>99</sup>

The form of the evasive maneuver -- cable operators fleeing from basic to *á la carte* -- is a result of the efforts of Congress to seal off retiering as an avenue of escape from basic rate regulation. In earlier versions of the 1992 Cable Act, only limited basic service would have been subject to rate control, and "expanded basic" would have been the obvious escape route. In blocking this exit, the law steered cable operators towards the next safe (unregulated) harbor: *á la carte*. While basic rates grew but 1.6% in 1993, down from 5.4% in 1992 and 7.9% in 1991, average revenue per subscriber grew 4.8% in 1993, as compared with 4.6% in 1992 and 4.8% in 1991 (Table 4). This indicates that prices for the cable package were not much constrained when retiering of basic, and repricing of premium services, are accounted for.

The predictable industry response to price caps was revealed in an embarrassing corporate memo circulated by Tele-Communications, Inc., the largest cable operator. It was written by a company vice-president, and sent to over 500 system managers; it was leaked

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<sup>98</sup> These include Encore ("Unregulated Cash Flow for You") in the 30 May, 1994 issue (pp. 6-7); Showtime ("introducing five exciting new value added channels designed to give you unregulated streams of revenue"), *Ibid.* (pp. 18-19); The Box ("Great News! Unregulated Revenue!"), *Ibid.* (p. 71); and Flix, which is part of Showtime Networks ("Here Are the Hard Facts: Flix is your best source of unregulated revenue today..."), in the 6 June, 1994 issue (pp. 30-31).

<sup>99</sup> *Cable World* (30 May, 1994), pp. 6-7 (boldface in the original).

to the *Washington Post* in November 1993. The memorandum outlined how the company could raise prices for "downgrades, upgrades, service calls and VCR hook-ups," as they were unregulated under the new rules. "We cannot be dissuaded from the charges simply because customers object," wrote the TCI executive. "It will take a while, but they'll get used to it." His conclusion was explosive: "The best news of all is we can blame it on reregulation and the government now. Let's take advantage of it!"<sup>100</sup>

#### **4.4.5 Network Infrastructure Quality Adjustments**

It appears that cable operators, when freed from the uncertainties of rate regulation in the 1980s, added channel capacity and higher quality programming. The evidence for this is embodied in the large channel size increases on basic, rapid growth in basic cable viewing shares, and increasing expenditures on programming inputs, all shown above. In the reverse experiment, the market reaction to the tighter constraints embodied in the FCC's February 1994 rulemaking was loud and virtually instantaneous. The huge Bell Atlantic-TCI merger was called off the day following the FCC's action, and both parties blamed rate regulation.<sup>101</sup> The deal, according to TCI chief executive John Malone, had hinged on Bell Atlantic's capital infusion into the cable company's upgrade plans, with TCI's 1994 capital budget to increase (post-merger) from \$1.1 billion to \$2.1 billion.<sup>102</sup> TCI, on its own again, announced that it would suspend one-half of its own \$1.1 billion capital budget pending clarification of the FCC's rate regulations, news which was sufficiently credible to send the stock prices

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**100** Vincente Padeloup, "More Trouble on Rereg Front: FCC, AGs investigate MSOs' New Cable Rates," *Cable World* (22 November, 1993), pp. 1, 65.

**101** John Greenwald, "Disconnected," *Time Magazine* (7 March, 1994), pp. 60-61; K.C. Neel, "Rereg Double-Whammy," *Cable World* (28 February, 1994), pp. 1, 41. "The deal fell apart because [TCI President John] Malone wanted more shares of Bell Atlantic as compensation for the falling stock price; [Bell Atlantic Chairman Ray] Smith wanted to pay less for TCI's cable properties because the new FCC rules meant they wouldn't bring in as much cash" (Nancy Hass, "Full Speed Ahead -- Maybe," *Newsweek* [7 March, 1994], p. 45).

**102** David Kline, "Infobahn Warrior," *Wired* (July 1994), p. 131.

of major cable equipment manufacturers plummeting.<sup>103</sup> The optimistic slant in the business press was that the investment disincentives created by re-reregulation would cause only temporary delay. As *Newsweek* reported: "The collapse of the deal between Bell Atlantic and TCI won't bring construction of the Information Superhighway to a halt. Even the FCC's new cable price controls will only slow it down. Now the race to find detours begins."<sup>104</sup>

Other signs of cost reduction<sup>105</sup> in response to re-reregulation were evident across the industry. The announced merger of Southwestern Bell and Cox cable was called off on 5 April, 1994. The second-largest cable system operator, Time Warner, announced a \$100 million reduction in its 1994 capital budget, a little more than one-fourth the amount of its 1993 budget. It also instituted a hiring freeze to cut staff expense via employee attrition.<sup>106</sup> Cablevision Systems, the fifth-largest U.S. MSO with 2.134 million subscribers,<sup>107</sup> announced a \$15 million cut in expenses, including a lay-off involving 160 workers, or about 3% of its workforce.<sup>108</sup>

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**103** Mark Robichaux, "The FCC's Rate Cuts Will Slow Traffic on Information Superhighway," *Wall Street Journal* (25 February, 1994), p. B1. See also: Carl Weinschenk, "As TCI Reviews Cap-Ex Budgets, Manufacturers Sitting Tight," *Cable World* (28 February, 1994), p. 5.

**104** Nancy Hass, "Full Speed Ahead -- Maybe," *Newsweek* (7 March, 1994), p. 44.

**105** Delaying capital investment is a cost reduction in the sense that current infrastructure is being depreciated longer.

**106** The company claimed it would replace customer service personnel, however. (Geraldine Fabrikant, "Time Cable Displeased, Cuts Outlays," *New York Times* [5 May, 1994], p. C3.)

**107** National Cable Television Association. *Cable TV Developments* (April 1994), p. 14-A.

**108** Vincente Padeloup, "Operators Begin to Announce Rate Changes," *Cable World* (13 June, 1994), p. 2; K.C. Neel, "Cablevision Dodges a Cap-Ex Bullet with 160 Job Cuts," *Cable World* (16 May, 1994), pp. 1, 112. See also: Rich Brown, "Rate Regs Could Impede Cable Investment," *Broadcasting & Cable* (28 February, 1994), p. 12; Bill Carter, "Cable TV Industry Shifts Approach as Growth Slows," *New York Times* (23 May, 1994), pp. A1, C9.

Perhaps the clearest signal of industry retrenchment was that a public offering by Falcon Cable, a Los Angeles-based system operator serving 1.1 subscribers, was withdrawn immediately after the FCC's February meeting. The \$125 million of new equity was to provide fiber-optic backbone to replace over 2,300 miles of coaxial copper, easily doubling its channel capacity.<sup>109</sup> The firm's chairman analogized the situation thusly: "The uncertainty caused by the FCC is like an apartment owner suddenly having rent control imposed. It's not just the first rate cut of 10%; it's the second cut of 7% on top of that."<sup>110</sup>

This dramatic response by capital markets in defunding technical upgrades was the primary casualty of reregulation, and its effect on consumer welfare is still to be registered. That is because it is a long-run phenomenon and, even if regulations are to be relaxed, and cable operators allowed to recoup cash flows on quietly deregulated margins (as appears likely to happen<sup>111</sup>), the uncertainty of the process of regulation seems certain to raise the cost of capital for the industry. This tension between rate regulation and entrepreneurial risk-taking has been observed from just the reverse perspective by Eli Noam:

*Institutionally, rate regulation encourages predictability, and its reconciliation with risk-taking in technological development and innovation may not be easy to achieve (Noam 1982, p. 219).*

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**109** John Greenwald, "Disconnected," *Time Magazine* (7 March, 1994), p. 61.

**110** *Ibid.*

**111** The FCC chair, Reed Hundt, spoke to cable executives in May 1994 at their annual trade show in New Orleans, expressing the view that regulations be loosened. For instance, the annual productivity factor adjustment (by which cable rate benchmarks would be lowered, in real terms, each year), was abandoned, and assurances were given that *à la carte* scrutiny would not be tight. Cable operator stocks rose by 6% following Hundt's speech. (See: Kim MacAvoy, "Hundt Has Encouraging Words for Cable," *Broadcasting & Cable* [30 May, 1994], p. 14; Henry A. Jessell, "Agency Staff Urges Revamping of Programing Incentives," *Broadcasting & Cable* [30 May, 1994], p. 45; K.C. Neel, "NCTA Show Buoy's Spirits," *Cable World* [30 May, 1994], pp. 1, 65; Vincente Padeloup, "An FCC Olive Branch?" *Cable World* [30 May, 1994], p. 2; Thomas P. Southwick, "Class Bully: Hundt Promises Not To Do It Again," *Cable World* [30 May, 1994], p. 10; Vincente Padeloup, "Stressing the Positive," *Cable World* [30 May, 1994], p. 20; "Washington: Policy Pow-Wow," *Broadcasting & Cable* [6 June, 1994], p. 73.)

#### 4.4.6 Cable Programmers Under Rate Controls on Operators

If the Commission's rules are likely to squeeze price-cost margins and expand output, then programmers -- firms supplying inputs to retail distributors -- should profit as their sales volumes increase. This is theoretically true, in that upstream suppliers always desire downstream complements to be competitively priced, thereby raising consumer demand for their inputs. It is also true in an accounting sense: Since cable networks are paid a per-subscriber licensing fee and sell ad time, both sources of revenue will unambiguously increase with the higher penetration that would result from lower retail prices.<sup>112</sup>

Importantly, cable programmers have been as outspoken as cable operators about the inadvisability of the tightened FCC rate regulations. Their opposition to price controls has been driven by the chilling effect they had had on sales to cable systems. While the February 1994 rules specifically allowed cable operators to pass on the cost of new basic channels (including a 7.5% profit mark-up), programmers petitioned the Commission to allow much *higher* prices.

By July 1994 several major programmers had formally requested that the FCC allow, essentially, free market pricing of new channels. Both Discovery and USA requested a Commission rule change which would allow operators to raise monthly basic rates by the cost (or licensing fee) of the new channel plus 25 cents per subscriber per month. Since most new (and existing) networks are offered to cable systems at about 25 cents per month, this reduces to a rule which gives operators about 100% mark-up on new basic cable

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<sup>112</sup> The USA Network, for instance, charges 29 cents per subscriber per month for carriage, and receives an average of 23 cents per subscriber per month in ad revenues. (Paul Kagan Associates, *Marketing New Media* [20 June, 1994], p. 3.)

channels.<sup>113</sup> Viacom, A&E and ESPN proposed that operators be allowed to raise rates by the amount of the license fee plus the average (existing) profit margin in the relevant tier of programming. This plan was apparently designed to give the Commission a face-saving path by which to beat a hasty retreat from binding price regulation.<sup>114</sup>

The irony of the programming situation under re-reregulation is that the number of new network launches is increasing: after a five-year plateau at a level of about 78 national cable networks, the 1993 level jumped to 99 (see Table 12). The consensus view within the industry is that the bubble in new program development was a product of the expectation (formed in recent years due to rapid technical breakthroughs) that future cable systems would demand greater quantities of cable channels.<sup>115</sup> At the margin, re-regulation is seen as a crushing counter-punch to programmers generally, new high-quality networks in particular.<sup>116</sup>

In a *Washington Post* op-ed, Nickolas Davatzes, CEO of A&E, argued that "the unintended victims of the FCC action are the cable programmers, who today find themselves

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**113** Recall that Rubinovitz 1991 found that about one-half of price increases were attributed to cable's market power. Here, programmers advocate that the operator keep such margins as an incentive payment. This strikes a frontal blow to the view that 50% cash flow ratios were themselves evidence of the anticonsumer effect of deregulation.

**114** Vincente Padeloup, "FCC to Cable: Sit Tight on a la Carte," *Cable World* (4 July, 1994), p. 17.

**115** Thomas P. Southwick, "Launches," *Cable World* (18 April, 1994), p. 12.

**116** "Despite a channel-capacity crunch and the FCC's decision to force basic cable rates down another 17 percent, would-be basic cable networks keep crowding onto the programming launch pad. But few, if any, cable operators intend to push the ignition button any time soon. In fact, many operators and existing programmers think the FCC's March 30 rate rules essentially sounded the death knell for new basic channels not backed by retransmission consent deals.... [W]ith operators overwhelmed by the FCC's new rules and seeing few economic rewards for adding any regulated services, most prospective basic networks have run into trouble securing firm, specific carriage commitments" (Alan Breznick, "Network Wannabes Press On Despite Dour Launch Outlook," *Cable World* [11 April, 1994], pp. 1, 50). (See also: Bill Carter, "Cable TV Industry Shifts Approach as Growth Slows," *New York Times* [23 May, 1994], p. 1.)



confronting an uncertain and difficult future."<sup>117</sup> He specifically noted that new network investments were being derailed by cable systems which were reducing product quality. Brian Lamb, the scrupulously bipartisan host and CEO of C-SPAN even ventured the opinion that the FCC rate regs were "baffling" and an "incredibly punitive" assault on cable television operators.<sup>118</sup> The unanimous opposition of traditional (non-shopping) cable programmers to rate regulation both publicly and in formal FCC proceedings suggests that cable system demand for high-quality programming will adjust downward in response to rate regulation.

#### **4.5 Price of Premium Services**

Analogous to the shifts taking place on the tiering/detiering margin are the changing trade-offs between returns to marketing regulated vs. unregulated services. The price of premium channels appears to have fallen due to reduced demand following the deregulation of basic cable (see Table 16), and to be recovering (in both price and quantity demanded) in the reregulation era.<sup>119</sup> While the average price of a premium channel has fallen sharply from \$10.17 in 1992 to just \$9.11 with reregulation in 1993, changes in the product account entirely for this drop. With cable systems shifting adding mini-pay tiers so as to get more programming on an unregulated, *à la carte* basis, the pay category has been fundamentally redefined and is, on average, of lower quality. HBO prices have apparently *increased* under reregulation. In the FCC's rate survey released in February 1994, HBO's monthly fee is reported to have gone from \$11.11 in April 1993 to \$11.50 in September 1993 (FCC 1994, p. 6A). This indicates that those channels which have been traditionally defined as "premium" are increasing in price -- for the first time since 1984.

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**117** Nickolas Davatzes, "Quality Cable at Risk," *Washington Post* (27 April, 1994), p. A23.

**118** James Lardner, "The Anti-Network Network," *New Yorker* (14 March, 1994), p. 50.

**119** Mayo & Otsuka (1991) also find that, where basic cable prices appear to be depressed by rate regulation, premium prices are higher (p. 409).

That rate increases for HBO are driven by increases in demand is suggested by the large gains in subscribership, absolutely and relative to trend, as reported recently by the leading pay network. According to *Newsweek* magazine: "HBO has recovered from its late-'80s doldrums to be a major cash cow for Time Warner... With aggressive marketing, subscribers jumped by 3.5 percent last year [1993] after a long dry spell."<sup>120</sup> This suggests that rate regulation does, as predicted by theory, lead suppliers to switch marginal investments (in salesmanship as well as infrastructure) towards ancillary markets not covered by the regulatory scheme in question. This, in turn, shifts the demand for such services outwards, and tends to raise the profit-maximizing price charged by price-searching firms.

The cable trade press interpreted the adjustment to a deregulated environment in 1987 in terms that generally fit the data and especially fit the theory. Expanding its efforts along the newly deregulated margins, the cable industry shifted its marketing practices dramatically. As summarized by industry analyst Paul Kagan in the first months of deregulation:

*Rate deregulation's inauguration Jan. 1 [sic] has demonstrated just how undervalued basic cable service has been. Operators took the opportunity to repackage and remarket services by emphasizing basic's value and cutting pay prices. Despite double-digit basic price hikes in early 1987, the industry found little if any price resistance from subscribers. New services and original programming are easing the transition to higher rates and have attracted new subscribers.*

*Expanded basic, which was originally intended to circumvent basic rate restrictions, will be a casualty of deregulation. Already operators are shifting expanded basic into the basic package as price hikes are administered. The recent upturn in pay TV subscriptions indicates the pay TV business may have stabilized. Programmers have cut prices*

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<sup>120</sup> Jolie Soloman, "What Michael Fuchs Wants You to Know," *Newsweek* (30 May, 1994), pp. 60-1.

*and differentiated product to attract new subscribers, but we have yet to see evidence that the industry can again market multi-pay [homes subscribing to more than one premium channel] successfully.*

*As a result, our new 10-year projections for the industry call for a large portion of pay TV revenue to be replaced by new basic revenue...<sup>121</sup>*

Demand for pay channels can and will adjust, tweaked by cable operator marketing efforts, in response to rate regulation of basic cable. When basic cable is deregulated, operators shift sales efforts to enlarged, higher-quality, higher-priced basic cable. This implies that under rate regulation, operators are more likely to earmark marketing expenditures for premium channels. Given the improving fortunes of HBO, and seeing the fast growth in mini-pay and other "unregulated revenue streams," that appears to be happening currently under reregulation.<sup>122</sup>

Such a view is buttressed by the pattern discovered in Table 17, which shows the proportion of cable operator revenues derived from three broad categories: Basic, Premium, and Other. When content controls were lifted on cable, *circa* 1980, operators scrambled for desirable programming to sell subscribers. The most easily tapped new product involved recently released

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**121** Paul Kagan Associates, *Cable Television Financial Databook* (June 1987), p. 10. In noting that basic penetration was increasing rather than declining under rate deregulation in 1987, *Cable TV Investor* commented that: "One explanation [of the increase in penetration] could be the stepped-up marketing and promotion employed by operators in conjunction with this year's rate increases. Consumer friendliness toward basic-oriented, rather than pay-oriented, packaging could go a long way toward justifying some of the assumptions in recent system acquisitions" ("Surprise: Rate Dereg Could Mean *Higher* Penetration," *Cable TV Investor* [28 September, 1987], p. 2).

**122** This was exactly the view expressed by the acknowledged leader of the industry, TCI chief executive officer John Malone. In a July 1994 interview, he was asked, "What effect has the rollback of cable rates had?" Malone's answer: "I think the cable industry is only temporarily injured by the FCC. But for the last three or four years we've been shifting a lot of our assets into the international arena... And we'll continue moving into programming, which the government has a very hard time regulating because of First Amendment issues. These noxious FCC rules are not going to be able to constrain the economics in entertainment very long. What's gonna happen is there'll be a shift from basic to a la carte services. If our programming is strong, then we'll see a quick recovery of the cable industry growth rate... We'll continue to diversify away from the regulated government-attacked core. And meanwhile, we'll continue to slug it out in the trenches in the domestic cable business, recognizing that the government's got to kill a lot of smaller cable operators before they can really hurt us much." (David Kline, "Infobahn Warrior," *Wired* [July 1994], p. 90.)

feature films, which were quickly packaged by HBO and Showtime on premium channels. In addition, basic cable packages were generally rate regulated by local governments, and charging for higher quality basic programming involved substantial regulatory risk. Hence, pay revenue rose quickly relative to basic revenue in the early 1980s. With deregulation, cable systems found that basic cable was relatively more profitable, and targeted their efforts accordingly. Basic revenue, just 46 percent of total revenue in 1984, rose to 57 percent by 1990. Pay cable dropped from 43 to 29 over the same period.

An alternative explanation for these trends could be that as the deregulated price flew up to monopoly levels cable systems would naturally collect relatively more revenue from the monopoly services -- the assumption being that premium channels are more competitive with video cassette rentals, movie theaters, and other entertainment media. Yet, that explanation would imply that increasing price-cost margins for basic service were forcing a restriction in subscriber access to basic cable networks. Instead, the data indicate that more and more cable networks were being successfully launched. Indeed, cable penetration of the top ten basic networks increased dramatically following deregulation. Between August 1986 and August 1987, the first year of deregulation, the average cable subscribership on such channels rose 23.4% (see Table 18). Pay subscribership, conversely, was relatively stagnant throughout the deregulation period. Hence, it appears that demand shifts, likely driven by quality changes and redirected marketing efforts of cable operators, drove the changes in revenue stream proportions.

#### **4.6 Confusion, Uncertainty, and Transactions Costs**

*Confusion Reigns As Ops Wrestle With New Rules.*

-- Cable World headline, 2 May, 1994

The ineffectiveness of regulation in suppressing cable rates in quality-adjusted terms does not mean that regulation is without meaning or impact. In reacting to controls by repackaging and creating new, unregulated revenue streams, firms utilize real resources. Both in contesting

the process whereby legislation is created by Congress and then implemented by the FCC and municipal authorities. and in reworking business decisions in response to new regulatory realities, suppliers expend significant sums. To the extent that these expenditures do not increase output in either quality or quantity dimensions, they may be properly thought of as socially wasteful rent-seeking.

As is usually the case, reliable estimates of the magnitude of such expenditures are extraordinarily difficult to come by. Accounting practices do not separate out rent-seeking expenses, nor do government agencies diligently estimate wasteful social costs they have mandated or encouraged. Yet, some bits and pieces of the scale of compliance (or evasion) costs are available. In TCI's December 1993 10-K filing with the Securities Exchange Commission, the firm reported spending \$21 million in "one-time direct expense in connection with the implementation of the FCC's regulations."<sup>123</sup> In that TCI serves about one in five U.S. cable subscribers, a linear extrapolation across all firms would suggest over \$100 million in compliance costs for 1993.<sup>124</sup> These costs, of course, do not include inefficiencies created in the marketing of different services, including those changes brought about by a scaled-back capital investment program.

The Federal Communications Commission has also recorded a partial accounting of the government's costs associated with rate regulation of cable operators. In a document sent to the Office of Management and Budget in April 1994, the Commission projected that its employees would expend 224,000 hours annually to respond to consumer rate complaints; that

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<sup>123</sup> Tele-Communications, Inc., "Form 10-K, Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934," (28 March, 1994), p. II-5.

<sup>124</sup> InterMedia, an MSO serving about 750,000 subscribers, reported spending 60 cents per subscriber, or \$450,000, just to fill out FCC "benchmark" forms to determine its rates during the 1994 re-reregulation. "And the extra workload appears to be benefiting accountants. 'I can't tell you one of the top-eight accounting firms that hasn't been retained to work on this,' said Leo Hindery, general managing partner of InterMedia" (*Electronic Media* [20 June, 1994], p. 8).

it will process 11,200 forms from cable operators listing their compliance with regulated benchmarks, and that each such filing will take the FCC 20 hours to process; that it will receive 14,000 requests from cable operators for assistance in filling out the Commission's forms; that 2,100 systems will file cost-of-service showings, and that it will take 80 hours for the FCC to process each of these. This totals to 616,000 hours, plus however long the FCC staff spends handling the 14,000 cable operator requests for assistance. At \$35 per hour, this amounts to \$21.56 million. These compliance costs would likely be matched or exceeded by local governments; 33,000 franchising authorities are eligible to be certified (by the FCC) to regulate local rates under the FCC guidelines, of which about 6,000 were certified as of April 1994.<sup>125</sup> These cities are now hiring outside consultants and expending considerable sums to bring expertise to the issue of whether or not firms are complying with the complicated set of regulations.

As sketchy as these numbers are, it is apparent that the process of adjustment absorbs a non-trivial cost to both private and public sectors. In just one of the scores of comment filing rounds associated with the FCC's rulemaking under the 1992 Cable Act, the mass of paper filed by outside parties weighed in at over 40 pounds. The confusion about what the regulations really mean, after they are produced, also produces costs for operators. As an exasperated TCI executive exclaimed:

*We're trying very hard to fully comply with the law. But we're making decisions at the same time the FCC is changing them. The FCC has changed its definition of what a subscriber is three times so far. We're trying to comply with the law and they can't figure out what a subscriber is.*<sup>126</sup>

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**125** "So far, only 5,823 franchising authorities out of 33,000 -- some 18 percent -- have certified their authority to regulate basic cable rates with the FCC." (Vincente Padeloup, "Cities Hit 'Hold' Button on FCC Rules," *Cable World* [18 April, 1994], pp. 1, 37.)

**126** Comments of Barry Marshall, COO of TCI. (K.C. Neel, "NCTA Show Buoy Spirits," *Cable World* [30 May, 1994], p. 65.)

Cable viewer ratings reflected significant adjustment costs for the industry. As cable systems retiered in response to rate controls, cable networks were moved up and down the dial. This process created a major marketing disturbance, and was blamed by industry insiders for a sharp fall in viewership. "Most of the established cable networks have been buffeted by channel switches stemming from last year's cable reregulation, resulting in viewer confusion and flat ratings."<sup>127</sup>

The hidden costs which result from regulation-inspired disorder are almost certainly dominant; the real expense to society involves surplus from the services not sold, the program services not begun, the infrastructure not built. These are virtually impossible to quantify. By whatever accounting system used, then, the costs of rate regulation compliance are substantial.

Uncertainty is enhanced by rate regulation. In heralding deregulation, the industry largely thought of its gain not as the ability to run prices up so much as being released from local government demands -- on rates and cross-subsidies. Paul Kagan expressed the cable industry's sentiment that "Rate deregulation is giving [buyers of cable systems] the confidence they can adjust for uncertainties of inflation,"<sup>128</sup> and this elimination of a large source of uncertainty -- regulatory demands -- drove cable values higher in the years following deregulation. While economists have puzzled over the sluggishness with which cable asset values rose in response to deregulation (Prager 1992 finds them increasing between 1986 and 1988, not immediately during the period when rate deregulation became a reality, 1982-84), the answer may lie here: The effect of deregulation was to reduce uncertainty rather than to raise quality-adjusted price,

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**127** Steve McClellan, "Programing Overhaul In Works At CNN," *Broadcasting & Cable* (13 June, 1994), p. 16. The article continues: "CNN has taken a harder hit than most. In the first quarter of this year, for example, the network's prime time ratings were down 15% from last year... 'The impact of cable reregulation is a major factor in the audience declines,' [CNN Vice President Tom] Johnson says. 'In the last 15 months more than 50% of our viewers find us on different channels.'"

**128** Paul Kagan Associates, *Cable Television Financial Databook* (June 1987), p. 6.

and the communication of steadier cash flows involves a fuzzier signal to capital markets. Over time, the reduction in cash flow variance becomes clearer, and values rise. Variations over time are inherently more difficult to calculate that means at a point in time.

In the case of re-regulation, and the market's pointed reaction to re-reregulation in February 1994, the issue was clear: Uncertainty in the regulatory process had raised the cost of capital for cable operators. (This was despite the marginal increase in the returns to high-capacity, a quirk created by the per-channel price caps instituted by the FCC.) Overall, there was a large reduction in cable operator capital budgets, a fact demonstrated by many indicators, and reflected in the decline in cable supplier stock values.

## 5 Political Coalitions and The 1992 Cable Act

At this stage -- or any stage -- it is perhaps easiest to gauge the impact of cable reregulation from the self-interested positions taken on the issue of cable rate regulation. I employ the dual assumptions that financially interested parties, firstly, invest substantial resources in discovering future economic impacts of various policy courses, and secondly, loyally assert public positions consistent with profit-maximization.<sup>129</sup> Hence, an examination of the positions taken by key industries in the debate on cable rate regulation can shed light on the likely effects of the law -- according to the experts.

*Cable operators.* It is straightforward that cable operators vigorously opposed the Cable Act. This does not necessarily imply, as some have asserted, that the Cable Act would have the likely effect of lowering quality-adjusted prices for consumers (Carroll & Lamdin 1993). Cable interests would reliably oppose *any* added constraints which do not provide sufficient offsetting (protec-

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<sup>129</sup> Certainly this is the operative assumption driving Becker's classic formulation of political equilibria (Becker 1983).



tionist) benefits.<sup>130</sup> But constraining profits via price controls does not necessarily transfer surplus to consumers. If cable systems lower quality by a sufficient degree, rate regulation can clearly lower both consumer surplus and (regulated) industry profits.<sup>131</sup> The evidence is clear that the cable industry did oppose rate regulation, going so far as to conduct a national advertising campaign claiming that reregulation would raise consumers' rates.<sup>132</sup> This tells us little about the impact of controls on consumers, however.

*Cable programmers.* Far more interesting is the position taken on rate regulation by the owners of cable programming. As a group, cable programmers strongly argued that rate reregulation under the 1992 Cable Act would negatively impact basic networks. New nets, such as the Sci-Fi Channel, were particularly fearful of rate regulation,<sup>133</sup> but established channels, such as Discovery,

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**130** An industry may even try to enact hostile legislation if it is helpful *at the margin*. Indeed, cable lobbyists actually attempted to have a "reregulation" bill resuscitated and passed into law in October 1990. As described in the trade press, Sen. Timothy Wirth (D-CO), a cable-friendly legislator, narrowly failed to work out a last-minute compromise with Sen. Al Gore (D-TN) *after* the legislation had been given up for dead. The cable industry rationale was that it was in their interests to have a weak reregulation measure pass, eliminating uncertainty over worse alternatives. In September 1990 a cable industry newsletter considered the key trade-off involved in blocking reregulation legislation: "Congress is serving notice that if cable doesn't swallow its pill this year, harsher medication may be dished out next year in the form of telco entry. Rep. Ed Markey (D-MA) plans telco-cable hearings next year" (Paul Kagan Associates, *SMATV News* [25 September, 1990], p. 2).

**131** There is some confusion created by Stigler's "capture theory." Because economists see regulation as typically sought by the regulated industry itself, they have sometimes been careless about distinguishing the precise nature of the regulations sought. The defining characteristic of pro-industry regulation involves raising *rivals'* costs, making new entry more difficult. Notwithstanding regulatory capture, industry still resists regulation which constrains the ability of *incumbents* to maximize profit.

**132** "The NCTA [National Cable Television Association] last week began mailing fliers to millions of cable subscribers warning of big price hikes if the bill [the 1992 Cable Act] becomes law" (Paul Fahri, "House Probe Cable TV Cost Data," *Washington Post* [29 August, 1992], p. A7).

**133** Richard Turner, "Sci-Fi Channel Encounters a Hard Sell Due to Competition, Reregulation Threat," *Wall Street Journal* (24 May, 1990), pp. B1, B5.

were also strong lobbyists against it -- particularly if they had begun new network ventures.<sup>134</sup> New "launches" were particularly vulnerable to suppliers' reactions to price controls, either from being pushed off basic into *à la carte* status, or by failing to gain carriage at all. The actual program producers, represented by the Motion Picture Association of America, were also strong opponents of reregulation.<sup>135</sup> As discussed above, programmer opposition to re-reregulation indicates that monopoly prices are not likely constrained with rate controls.

*Television broadcasters.* Most interesting of all is the position taken by the broadcasters. Long in a competitive position vis-a-vis cable and erstwhile beneficiaries of the FCC's anti-cable rules in the 1960s and '70s, the broadcast industry was keenly interested in the Cable Act of 1992. In fact, they were the chief interest group backers of the legislation. The industry had long pushed cable rate regulation, arguing forcefully for it in a 1990 FCC proceeding where no other issues (such as "must carry" and retransmission consent) were involved.<sup>136</sup> The NAB, which would have an

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**134** "John Hendricks, the founder and chairman of the Discovery Channel, said that Discovery was able to surmount its initial financial problems because cable was de-regulated in 1984. With reregulation, he said, his new channel, the Learning Channel, will face an uncertain future" (Bill Carter, "Now Or in 1993, Cable TV Meets the Regulators," *New York Times* [8 March, 1992], p. 2E). After the fact, John Hendricks of Discovery, Brian Lamb of C-SPAN, and Nickolas Davatzes of A&E were among the most outspoken opponents of rate controls, particularly the February 1994 re-reregulation rules. (See: Tim W. Ferguson, "Viewers Hurt as Cable Gets a Double Dose," *Wall Street Journal* [14 June, 1994], p. A15; Bill Carter, "Cable TV Industry Shifts Approach as Growth Slows," *New York Times* [23 May, 1994], pp. A1, C9.)

**135** Edmund L. Andrews, "Cable's Big Ally on Capitol Hill: Hollywood," *New York Times* (6 January, 1992), p. D8. "Mr. Valenti [president of the MPAA] will not discuss his lobbying strategy, but he has not been shy about his distaste for the cable bill. 'We are opposed to rate regulation of our products in any form,' he said. 'That's a matter of principle.'" The trick here, of course, is that the cable bill did not attempt to control the price of movies but rather the price of movie distribution services. Normally, if distribution costs fall, demand (or imputed demand) for a product increases. The article also noted that Hollywood was disgruntled with the 1992 Cable Act due to its retransmission consent provisions.

**136** Comments of the National Association of Broadcasters, *In the Matter of Reexamination of the Effective Competition Standard for the Regulation of Cable Television Basic Service Rates*, Federal Communications Commission MM Docket No. 90-4 (6 April, 1990).

economic interest in low-priced broadcast-only tiers and *high-priced* cable programming tiers in a world in which rate regulation effectively lowered prices, expresses a different interest in its FCC filing:

*The intent of the [1984] Cable Act is that, until such competition develops, franchise authorities should have the option of regulating rates for basic service to protect the public from monopolistic practices, and NAB believes the entire video industry from the effects of excess revenue diversion to cable (Ibid., pp. 28-9).*

*Finally, the Commission solicited comment (NPRM ¶ 44) on measures it could take or recommend to avoid cable systems retiering their basic service to frustrate rate regulation. NAB agrees this poses a serious problem. Under the ACLU decision, however, the Commission lacks discretion to revise the statutory definition of basic service, which is the only service tier for which the Cable Act [of 1984] permits regulation. NAB suggests that the Commission recommend that Congress amend the Cable Act to include within the definition of basic cable service all tiers which carry local broadcast channels or services which carry advertising (Ibid., p. 37).*

As a competitor for viewing audiences, any real reduction of cable prices would expand cable viewership -- at the direct cost of broadcast advertising revenues. It is assuredly curious that the NAB endorses measures expansive regulatory measures which it claims will combat the diversion of "excess revenue to cable." As a competitor, it benefits from such alleged high-price policies. In that broadcasters have been hemorrhaging market share to cable programmers throughout the past decade (see Table 15), whatever monopolistic pricing cable operators enjoy should work to ease the competitive crunch felt by broadcasters. Ruling out altruistic behavior, broadcasters evidently believed that, once transactions costs were accounted for, quality-adjusted rates were likely to be higher under cable rate regulation and called for FCC regulation of *all* basic tiers.

When it came time for legislation, the broadcasters were generous in their support of cable reregulation, underwriting various advertising campaigns asking for public support for the policy. One broadcaster-financed newspaper ad appeared in August 1991, claiming, "If Cable Wins, Consumers Lose." The ad noted that cable rates had risen 56% in four years according to the General

Accounting Office, warning, "And now the cable monopoly is threatening to raise your rates again."<sup>137</sup> In his detailed treatise on network television, Ken Auletta writes that part of the strategic corporate plan common to each of the three broadcast nets in the early 1990s was to hamstring the cable industry with reregulation (Auletta 1991, p. 553). The cable industry readily shared this view, as industry insiders bluntly asserted: "The push for legislation is from broadcasters."<sup>138</sup> When the FCC released a study in 1991 which described the decline in broadcast viewing shares in painful detail (Setzer & Levy 1991), a broadcasting trade journal wishfully editorialized: "Congress... may well be inclined to follow the report's lead by putting the brakes on cable's expansion -- by reregulation of the wired world while the FCC frees up the broadcast universe."<sup>139</sup>

*Telephone companies.* Similar to broadcasters, the telcos view themselves as long-run competitors to cable television companies. Currently under legal constraints which prevent their direct entry into local video markets as full fledged cable television suppliers, the telephone companies have been outspoken about their intention to overturn the cross-ownership ban, going so far as to file a series of First Amendment challenges to the law.

Major local exchange companies strongly supported the re-reregulation round at the FCC. Specifically, they urged the FCC to revisit the question of the competitive price differential, arguing that the 10% rate rollback based on this standard was too low. Nynex lobbied the FCC on 2 February, 1994 and again on 4 February, 1994, arguing that cable rates should be reduced by 28%, according to *ex parte* documents at the Commission. Nynex, Bell Atlantic, and GTE made a similar claim in

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<sup>137</sup> "NAB Pushing Cable Regulation in Print Ads," *Daily Variety* (30 August, 1991), p. 22. See also: "NAB Vows to Continue Push for Cable Regulation," *Daily Variety* (10 October, 1991), p. 3. See also: "Fed Up with Cable TV's High Rates and Poor Service? You're Not Alone," ad in the *Washington Post* (30 April, 1992), p. A15 (among the signatories were both the National Association of Broadcasters and the Association of Independent Television Stations).

<sup>138</sup> Comments of cable industry lawyer Frank Lloyd of Mintz, Levin, Cohn, Ferris, Glovsky & Popeo. (Paul Kagan Associates, *Cable TV Law Reporter* [19 March, 1992], p. 1.)

<sup>139</sup> Editorial, "But Words Can Never Hurt You?" *Broadcasting* (1 July, 1991), p. 78.

their FCC joint filing in June, 1993.<sup>140</sup> Moreover, Bell Atlantic sued the Commission to overturn the first (10%) rate rollback on the grounds that it was too modest, and *withdrew* its suit after announcing it would acquire TCI.<sup>141</sup>

According to industry analysts, the rationale for this anti-cable effort was straightforward:

*.... what temporarily handicaps cable gives competing technologies room to zoom. For the Baby Bells, cable re-regulation is a windfall. Nipped at on all sides by new competitors such as satellite and wireless, they now can play catch-up with the cable companies. Companies like Ameritech and Pacific Telesis look smart now. They avoided cable alliances and instead are spending billions to add video capability to their phone systems. "The FCC's decision buys the telephone companies at least another year to develop video capability," says analyst Fred Moran of Salomon Brothers. "That's a lot."<sup>142</sup>*

*Summary.* The tea leaves can be read in vividly self-interested tones: cable's competitors have favored regulation, while cable's input suppliers have opposed it. This suggests that rate regulation has not worked to lower quality-adjusted price to cable subscribers, but to raise them.

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**140** The author's expert affidavit was filed with the Federal Communications Commission as an exhibit to this filing. The affidavit did not endorse rate regulation or re-reregulation, but argued that the likely magnitude of the price difference between competitive and monopoly systems was greater than 10%. Some of the logic (or evidence) contained in that paper was used in the FCC's February 1994 reconsideration.

**141** "Cable Execs See Telco Fingerprints All Over New FCC Rate Rollbacks," *Cable World* (28 February, 1994), pp. 1, 4. "Telco lobbyists denied the charges, but cable executives last week placed a large part of the blame for the FCC's latest cable rate rollbacks on lobbying efforts mounted by regional Bell operating companies in the market to buy -- or compete against -- cable systems. 'They were all over the FCC,' said one Washington, D.C. industry observer who requested anonymity. The source said only Bell Atlantic, U S West and Southwestern Bell, which have cut deals or wrapped up agreements with cable operators, didn't actively push the FCC to further rollback rates."

**142** Nancy Hass, "Full Speed Ahead -- Maybe," *Newsweek* (7 March, 1994), p. 45. The same Salomon Brothers analyst commented to the *New York Times*: "'The playing field has tilted in favor of the regional Bells,' Mr. Moran said. 'By handicapping the cable industry's ability to upgrade their services, the Bells have essentially been given time to get into video and other related services'" (Kenneth N. Gilpin, "Market Place: A One-Two Combination Staggers the Cable Television Industry and Puts It on the Defensive," *New York Times* [7 March, 1994], p. C4).

## 6 Conclusion

*This [rate regulation] should lead to more sales, which should lead to more growth, which should lead to more jobs.<sup>143</sup>*

*This industry is not in any way ruined. They're going through a period of flatness.<sup>144</sup>*

These first of these two comments from FCC Chairman Reed Hundt outlines the economic logic for rate regulation of cable television operators, while the second delivers the verdict now being evidenced in cable markets across the United States. That decision is devastating to the proconsumer view of regulation embodied in the logic of the Chairman's opening statement. If rate regulation really does lead to more competitive pricing, then enhanced output should be the result. Even at this early juncture of the reregulation episode, however, it looks to all informed observers that -- at best -- cable is in a period of relative "flatness." That should deliver an answer to the question: Has rate regulation benefitted consumers by lowering quality-adjusted prices? Not according to consumers.

Much has been claimed for the advent of rate reregulation on cable television in 1993, and much evil has been attributed to the decision by Congress to deregulate rates in 1986. To the public, it has appeared obvious that rate increases were being driven by unregulated pricing; to policy analysts and the press, it appeared clear that cable television systems were exploiting their monopoly power in local multi-channel video markets to raise prices. Competition and rate regulation were cast as substitutes, with the latter more reliable -- and more certain -- as a short-run solution. Competition had yet to prove itself, while regulation was assumed viable.

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**143** Comments of Reed Hundt as reported in: Vincente Padeloup, "New FCC Chairman: I'll Use Reregulation to Boost Economy," *Cable World* (29 November, 1993), p. 1.

**144** Comments of Reed Hundt as reported in: Bill Carter, "Cable TV Industry Shifts Approach as Growth Slows," *New York Times* (23 May, 1994), p. C9.

This did not offend many economists, who generally categorize unregulated monopolies -- particularly those benefitting from franchise protection and other entry barriers -- as the worst case scenario. Regulation might have costs of its own, but it could theoretically lower prices below monopoly levels, thus improving consumer welfare. The economic literature was mixed on whether rate regulation had really lowered prices in the past. But the evidence of market power was clear, and that seemed to call for some regulatory intervention. Moreover, the signal that regulation was "anti-cable" -- that it hurt asset values and was strongly opposed by cable operators -- assured some economic analysts that at least part of what cable operators lost would be recovered by consumers.

What such a view ignores is the multiple dimensionality of regulation: what cable operators lose may accrue to dead-weight costs and/or transfers to other interest groups, with consumers being made worse-off in the process. This possibility is not contradicted by the evidence that cable enjoys monopoly profits, setting price above marginal cost and demonstrating Q ratios far in excess of unity. It may simply be the case that the institutional means by which government regulates cable are insufficient to actually constrain quality-adjusted prices.

Cable's voyage out of regulation into deregulation and then back again to regulated status -- all within the confines of local monopoly franchises -- tells a compelling story: cable operators adjust their service menus, marketing strategies, and infrastructure investments so as to maximize returns under each new regulatory constraint. The cable operator, not only a transporter of video signals but an editor and supplier of programming, cannot be effectively monitored by a First Amendment-constrained government.

If rate controls worked as advertised, cable output would have decreased with deregulation and increased with reregulation. Prices would have spurted with deregulation and subsequently increased at the rate of inflation, then dropping with reregulation. Prices in deregulated systems would have increased substantially more in the wake of deregulation than the prices of already-regulated systems. New network formation would have tapered off after deregulation, and received

a major boost from reregulation. Viewer ratings for cable program services would have declined with deregulation and increased with reregulation. Cable ad sales would have declined with deregulation, and been boosted by reregulation. Cable programmers would heartily support regulation to squeeze price-cost margins at the retail distribution level. Cable's competitors in television (off-air broadcasters) and telecommunications (local exchange companies) would have been negatively impacted, and would have rationally opposed the policy.

In each of these tests of the effectiveness of rate regulation, the evidence shows otherwise. Observed as a whole, the facts lead irresistibly to the conclusion: Rate regulation has not lowered quality-adjusted cable rates.

What *can* regulators regulate? It is apparent that cable rates are one item they cannot effectively regulate in the U.S. economy. Yet, regulators regulate for reasons, and some benefits -- to some parties -- result from cable rate regulation. Certainly, a lively inter-industry competition has dominated the public policy developments here, and cable's competitors believe they are better off with rate regulation than without. The evidence points, relentlessly, to regulatory capture with shifting equilibria: where the winning coalition in 1984 was comprised of the regulated industry itself (alone), the regulated industry was largely excluded in the 1992 Act.

The surprising result is that regulated monopoly can be worse than unregulated monopoly -- even with protectionist entry barriers. When products-space escape is convenient, rate regulation encourages transactions costs and rent-seeking behavior which are so unproductive that they make the net impact of controls negative, even under "optimal" (franchise monopoly) conditions. Just as Stigler & Friedland (1962) doubted that regulated prices were below unregulated rates for electric



power,<sup>145</sup> the cable market offers a powerful lesson concerning the efficacy of price regulation.

In fact, we arrive at a stronger result than that broached by Stigler & Friedland: Unregulated cable monopoly works better for consumers than regulated monopoly even in the face of anti-competitive barriers (yielding substantial market power) and during relatively brief adjustment periods. Whereas both George Stigler and Milton Friedman interpreted the evidence on regulation to suggest that the dynamic aspects of market competition would outperform regulated monopoly markets in the long-run, the regulatory changes examined in this paper have all been observed in the short- to medium-run. Dynamic aspects of the regulatory dilemma, wherein technological change renders existing structures obsolete, may well occur on distant margins beyond the scope of this analysis.

It is a sobering result to find that price controls have underperformed unregulated franchise-protected monopoly. This adds a new and starchy wrinkle to the choice among policy evils. The challenge to those who would re-invent rate regulation is imposing. It should also inform the debate over regulation to discover that, whereas price competition has led to increased consumer satisfaction in those cable markets where it has flourished, rate regulation has failed. This finding suggests that the burden of proof be shifted: The case for proconsumer regulation cannot be assumed, even as an interim substitute for competition.

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**145** In the end, it was this skepticism which won the day, rather than any particular empirical findings about electricity regulation, as the Stigler & Friedland case study turned out to be littered with errors. First, there were mathematical mistakes in the regression analysis; when done properly, electricity charges in states with public utility regulation were about one-fourth lower and output about 50% higher (Peltzman 1993, p. 820). Second, the difference in the policy regimes was not, as argued, "unregulated" vs. "regulated." In fact, all electric companies in the sample were regulated by either a state commission or by a municipal government. It is very difficult to interpret their price data -- regardless of what they show -- as showing anything about government regulation *per se*.

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## 8 Tables

Date	Mean Basic Cable Rate*	Mean Number of Basic Channels*	Mean Price per Channel	Revenue per Subscriber per Month	% of Systems Offering One Tier Only
11/30/86	\$11.71	27.1	\$.44	\$21.78	74.3%
12/31/88	14.91	32.2	.47	25.00	n.a.
12/31/89	16.33	33.6	.49	26.36	83.4
4/1/91	18.84	35.3	.53	28.76	58.6
%Δ:1986-88	27.3%	18.8%	6.8%	14.8%	n.a.
%Δ:1986-89	39.5	24.0	11.4	21.0	12.2%
%Δ:1986-91	60.8	30.3	20.5	32.0	-21.1%
Annualized%Δ: 1986-1991	11.6	6.3	4.4	6.6	--

Source: GAO 1991. \*Most popular basic tier.

	<i>Variable</i>					
Dep. Var: Monthly Cable Rate	Constant	Month	1984 Cable Act dummy	1987 Dereg dummy	April '93 Rereg dummy	Sept. '93 Rollback dummy
Estimated Coefficient	0.95778	$0.35782e^{-2}$	$0.22706e^{-1}$	$-0.19670e^{-1}$	$0.51866e^{-1}$	$0.11797e^{-1}$
t	203.5	52.49	0.5266	-0.7874	2.057*	0.7915

$R^2 = .9651$ . \*significant at 95% level.

First Period	Second Period	Chow Statistic	Critical Value @ .05
1/84 - 12/86	1/87 - 3/93	42.764	19.485
1/84 - 12/86	1/87 - 9/93	51.313	19.486
1/84 - 12/86	1/87 - 12/93	49.513	19.486
1/84 - 12/86	1/87 - 12/92	41.598	19.485

Year	Basic Rate	% change	Rev/Sub/Mo	% change	Rate-based Rev/Sub/mo	% change
1976	\$6.45	--	\$7.06	--	\$6.94	
1977	6.86	6.4	8.20	16.1	7.70	11.0
1978	7.13	3.9	9.18	12.0	8.62	11.9
1979	7.40	3.8	10.42	13.5	9.77	13.3
1980	7.69	3.9	12.14	16.6	11.34	16.1
1981	7.99	3.9	14.17	16.7	13.17	16.1
1982	8.30	3.9	16.35	15.4	15.17	15.2
1983	8.61	3.7	18.15	11.0	16.85	11.1
1984	8.98	4.3	19.69	8.5	18.16	7.8
1985	9.73	8.4	20.98	6.5	19.18	5.6
1986	10.67	9.7	22.13	5.5	20.00	4.3
1987	12.18	14.2	23.83	7.7	21.27	6.4
1988	13.86	13.8	25.63	7.6	22.84	7.4
1989	15.21	9.7	27.50	7.3	24.27	6.3
1990	16.78	10.3	29.46	7.1	26.02	7.2
1991	18.10	7.9	30.86	4.8	27.06	4.0
1992	19.08	5.4	32.30	4.6	28.26	4.4
1993	19.39	1.6	33.84	4.8	29.35	3.9

Source: Paul Kagan Associates, *Cable TV Investor* (31 March, 1994), p. 9.  
Rate-based revenue includes only basic, expanded basic, and pay or mini-pay services.

**TABLE 5**  
**FCC Survey of Regulated Rate Changes: April-September, 1993**

	April 1993	September 1993	% change
<b>Non-cable ready TV HHs</b>	\$	\$	%
(a) Limited Basic Service + 1 converter + 1 remote	12.81	12.07	-5.8
(b) Expanded Basic + 1 converter + 1 remote	25.92	22.93	-11.5
(c) Same as (b) but adjusted for <i>à la carte</i> charges	25.92	24.32	-6.2
(d) Same as (c) with HBO	37.45	36.22	-3.3
(e) Same as (c) but with 2 converters, 2 remotes, 1 A/O	33.14	25.72	-22.4
(f) Same as (e) with HBO	46.32	39.31	-15.1
<b>Cable Ready TV HHs</b>			
(a)	10.91	11.18	+2.5
(b)	23.95	22.11	-6.9
(c)	23.75	23.62	-0.5
(d)	36.60	35.94	-1.8
(e)	28.80	24.32	-15.6
(f)	44.62	38.76	-13.1
<b>Programming Charges</b>			
Limited basic	10.71	10.92	+2.0
Expanded Basic	23.39	21.70	-7.2
Expanded Basic Adjusted for <i>à la carte</i>	23.39	23.05	-1.5
Expanded Basic Adjusted for <i>à la carte</i> & HBO	34.50	34.55	+0.1
<b>Equipment Charges</b>			
Non-addressable converters	0.66	0.65	-1.5
Addressable converters	1.70	2.14	+25.9
Remotes	2.08	0.23	-88.9
Additional outlets	4.69	0.14	-97.0
Prewired installations*	38.52	27.89	-27.6
Unwired installations*	46.08	42.00	-8.9

Source: FCC 1994b, p. 6A.

\*Charged one time. All other charges are monthly.



<b>TABLE 6</b>				
<b>1993 FCC Survey Data: Average Price Declines for Regulated Services</b>				
	<i>April Rate</i>	<i>Sept. Rate</i>	<i>\$ Change</i>	<i>% change</i>
Regulated Revenue/Sub/Mo: systems w/o á la carte changes	\$25.33	\$23.62	-\$1.71	-6.8%
Regulated Revenue/Sub/Mo: systems w/ á la carte adjustments	\$26.32	\$25.34	-\$0.97	-3.7%
Mean across all systems	\$25.61	\$24.11	-\$1.50	-5.9%

Source: FCC 1994b, Table 2.

<b>TABLE 7</b>				
<b>Unregulated System Price Changes Following Deregulation</b>				
	<i>Basic Price</i>		<i>Revenue/Subscriber/Month</i>	
<i>Date</i>	Unregulated	Deregulated	Unregulated	Deregulated
12/31/84	\$10.58	\$9.62	\$19.70	\$19.98
12/31/85	11.44	10.36	20.90	20.99
11/30/86	12.31	11.55	22.11	21.78
12/31/87	13.50	13.46	23.32	23.40
12/31/88	14.94	14.93	25.24	25.04
12/31/89	16.24	16.42	26.74	26.41
Percent Increase 1984-89	53.4	70.7	35.7	32.2
Percent Increase 1986-89	31.9	42.1	20.9	21.3

Source: GAO 1990, pp. 52, 58. (Note: The 1991 GAO Report does not include a comparison of these systems. Hence, the data only goes through that covered in the 1990 Report.)

**TABLE 8**  
**Cable Television Industry Growth, 1976-93**

Year	Basic Subs* (mil.)	U.S. Households (mil.)	% of U.S. Households Subscribing	National Saturation (HP/HHs)	Homes Passed (mil.)	Mean U.S. Penetration (Subs/HP)	Total U.S. Revenue (\$billion)
1976	11.8	72.9	16.2%	31.2%	23.1	51.1%	.932
1977	12.6	74.1	17.0%	32.7%	24.2	52.1%	1.200
1978	14.2	76.0	18.7%	35.3%	26.8	53.0%	1.476
1979	15.8	77.3	20.4%	37.9%	29.3	53.9%	1.875
1980	19.2	80.8	23.8%	43.2%	34.9	55.0%	2.549
1981	23.0	82.4	27.9%	50.7%	41.8	55.0%	3.656
1982	27.5	83.5	32.9%	59.3%	49.5	55.6%	4.984
1983	31.4	83.9	37.4%	66.7%	55.9	56.2%	6.425
1984	34.2	85.3	40.1%	70.9%	60.5	56.5%	7.774
1985	36.7	86.8	42.3%	74.5%	64.7	56.7%	8.938
1986	39.7	88.5	44.9%	78.4%	69.4	57.2%	10.144
1987	42.6	89.5	47.6%	81.7%	73.1	58.3%	11.765
1988	45.7	91.1	50.2%	84.7%	77.2	59.2%	13.595
1989	49.3	92.8	53.1%	89.2%	82.8	59.5%	15.678
1990	51.7	93.3	55.4%	92.2%	86.0	60.1%	17.855
1991	53.4	94.3	56.6%	93.7%	88.4	60.4%	19.463
1992	55.2	95.7	57.7%	94.7%	90.6	60.9%	21.044
1993	57.4	96.4	59.5%	96.4%	92.9	61.8%	22.863

Source: Paul Kagan Associates, *Cable TV Investor* (31 March, 1994), p. 9.

Source for U.S. Households: December figures for each year from U.S. Department of Commerce, Bureau of the Census, Series P-20.

\*At year-end.

TABLE 9 Annual Subscribership Changes for Top 50 MSO's, 1987-93							
	11/30/87	11/30/88	11/30/89	11/30/90	11/30/91	11/30/92	11/30/93
Basic Subs (millions)	34.3	39.3	42.8	45.1	46.5	49.4	50.6
Increase	--	14.6%	8.9%	5.4%	3.1%	6.2%	2.4%
Expanded Basic Subs (millions)	5.2	4.2	3.5	7.1	13.3	13.8	24.6
Increase	--	-19.2%	-16.7%	102.9%	87.3%	3.8%	78.3%
Pay Subs (millions)	30.4	33.4	35.1	35.9	34.9	35.2	35.2
Increase	--	9.9%	5.1%	2.3%	-2.8%	0.9%	0.0%
Basic Pen (Subs/Homes Passed)	.567	.586	.592	.593	.600	.613	.616
Increase	--	3.5%	1.0%	0.2%	1.2%	2.2%	0.5%

Source: Paul Kagan Associates, *Marketing New Media* (21 March, 1994).

TABLE 10 Regression Results: Annual Changes in U.S. Cable Penetration, 1981-93						
Variable						
	Constant	$\Delta$ Homes Passed	$\Delta$ Personal income	Year	Dereg dummy	Rereg dummy
Estimated Coefficient	287.72	$-0.68428e^{-2}$	0.15100	-0.14496	1.4286	0.71988
t	1.157	-0.1024	1.857*	-1.160	2.932*	1.305

Endogenous variable: annual percentage change in U.S. penetration rate X 100.

$R^2 = .6710$ . \*significant at 95% level.

TABLE 11 U.S. Cable TV Advertising Revenues, 1980-93					
Year	National/Local Spot Revenue (\$ million)	Cable Network Adv. Revenue (\$ million)	Total Adv. Revenues (\$ million)	Increase (\$ mil.)	% annual increase
1980	8	50	58	--	--
1981	17	105	124	66	113.8
1982	32	195	230	106	85.5
1983	60	331	396	166	72.2
1984	99	487	595	199	50.3
1985	167	634	815	220	37.0
1986	195	748	965	150	18.4
1987	268	891	1,192	227	23.5
1988	374	1,135	1,561	369	31.0
1989	496	1,461	2,031	470	30.1
1990	634	1,802	2,539	508	25.0
1991	710	2,046	2,874	335	13.2
1992	872	2,339	3,352	478	16.6
1993	1,064	2,669	3,895	543	16.2

Source: NCTA, *Cable Television Developments* (April 1994), p. 9-A.

**TABLE 12**  
**Cable Network Growth, 1980-1993**

<i>Year</i>	<i>Basic</i>	<i>Premium</i>	<i>PPV/Other</i>	<i>Total Networks</i>
1976	2	2	0	4
1977	3	2	0	5
1978	6	2	0	8
1979	14	5	0	19
1980	19	8	1	28
1981	29	9	0	38
1982	30	11	1	42
1983	31	11	1	43
1984	36	10	1	47
1985	40	9	6	55
1986	52	8	7	67
1987	59	9	7	75
1988	61	8	8	77
1989	60	5	9	74
1990	61	5	11	77
1991	61	7	10	78
1992	64	8	10	82
1993	72	9	18	99

Source: National Cable Television Association, *Cable Television Developments* (April 1994), p. 7-A.

<b>TABLE 13 (Part 1)</b>							
<b>Cable Program Expenditures and Internal Subscriber Growth, 1983-93</b>							
	1980	1981	1982	1983	1984	1985	1986
New Homes Passed (mil.)	5.6	6.9	7.7	4.7	4.2	4.2	4.7
Penetration of new HP	30	30	30	30	30	30	30
Internal sub growth (%)	9.0	7.5	8.0	8.0	4.5	3.2	4.1
Basic program spending (\$mil.)	234*	n.a.	n.a.	255	325	368	496
% change year-on-year	n.a.	n.a.	n.a.	n.a.	27	13	35
Spending per sub (\$/yr.)	n.a.	n.a.	n.a.	8.12	9.50	10.04	12.50
% change year-on-year	n.a.	n.a.	n.a.	n.a.	17	6	25

<b>TABLE 13 (Part 2)</b>							
<b>Cable Program Expenditures and Internal Subscriber Growth, 1987-93</b>							
	1987	1988	1989	1990	1991	1992	1993
New Homes Passed (mil.)	3.7	4.1	5.6	3.2	2.4	2.2	2.0
Penetration of new HP	30	33	36	39	40	40	40
Internal sub growth (%)	4.2	3.7	3.2	2.3	1.5	1.5	1.6
Basic program spending (\$mil.)	572	739	1,006	1,410	1,720	1,940	2,189
% change year-on-year	15	29	36	40	22	13	13
Spending per sub (\$/yr.)	13.43	16.17	20.41	27.27	32.15	35.14	38.47
% change year-on-year	7	20	26	34	18	9	9

Source: Paul Kagan Associates, *Marketing New Media* (15 March, 1993), p.1, augmented and updated by research request to Kim Weill at Paul Kagan Associates (February 1994).  
 \*National Cable Television Association, "Growth of Cable Television," factsheet distributed at June 1993 annual convention in San Francisco.

<i>Category</i>	'83/'84	'84/'85	'85/'86	'86/'87	'90/'91	'91/'92
B'cast Net. Affiliates	58	56	56	53	46	47
Independent B'cast Stns.	17	17	17	17	17	16
Public Stations	3	3	3	3	2	3
Basic Cable Networks	17	19	19	23	35	35
Pay Services	11	11	10	10	9	8

Source: Nielsen Ratings reported in National Cable Television Association, *Cable Television Developments* (June 1993), p. 5A. Columns sum to more than 100 due to homes with multiple television sets.

<i>Category</i>	83/84	84/85	85/86	86/87	87/88	91/92
B'cast Net. Affiliates	69	66	66	64	61	54
Independent B'cast Stns.	19	18	18	20	20	20
Public Stations	3	3	3	4	4	3
Basic Cable Networks	9	11	11	13	15	24
Pay Services	5	6	5	4	7	6

Source: Nielsen Ratings reported in National Cable Television Association, *Cable Television Developments* (June 1993), p. 5-A.

Note: Columns can sum to more than 100 share points due to homes with multiple television sets.

Year	Price	% increase	Year	Price	% increase
1976	\$7.71	n.a.	1985	\$10.25	2.9
1977	7.92	2.7	1986	10.31	0.6
1978	8.01	1.1	1987	10.23	-0.7
1979	8.27	3.2	1988	10.17	-0.6
1980	8.62	4.2	1989	10.20	0.3
1981	8.92	3.5	1990	10.30	1.0
1982	9.30	4.3	1991	10.27	-0.3
1983	9.70	4.3	1992	10.17	-1.0
1984	9.96	2.9	1993	9.11*	-10.4

Source: Paul Kagan Associates, *Marketing New Media* (20 June, 1994), p. 4.

\*Elsewhere, Paul Kagan Associates report that the pay rate in 1993 is estimated to be \$10.48 per month. (NCTA, *Cable Television Developments* [April 1994], p. 6-A.)

<i>Year</i>	<i>Basic (%)</i>	<i>Premium (%)</i>	<i>Other (%)</i>
1980	63	30	7
1981	56	36	8
1982	51	40	9
1983	47	43	10
1984	46	43	11
1985	46	42	12
1986	48	38	14
1987	51	35	14
1988	54	33	13
1989	55	31	14
1990	57	29	14
1991	57	26	17
1992	57	24	19

Source: NCTA, *Cable Television Developments* (October 1993), p. 8-A.

Network	Began	Subs (mil.)			% change: 85/86	% change: 86/87
		8/85	8/86	8/87		
ESPN	9/79	36.50	37.60	43.40	3.0	15.4
WTBS	12/76	35.20	36.94	41.95	4.9	13.6
CNN	6/80	33.50	34.36	41.08	2.6	19.6
USA	4/80	31.00	32.00	39.00	3.2	21.9
CBN	4/77	29.70	30.92	36.71	4.1	18.7
MTV	8/81	28.10	30.70	35.80	9.3	16.6
TNN	3/83	23.80	26.80	34.60	12.6	29.1
NICK	4/79	25.90	29.00	34.20	12.0	17.9
LIFETIME	1/84	26.20	24.90	33.25	(5.0)	33.5
C-SPAN1	3/79	21.50	22.25	31.50	3.5	41.6
Weather	5/82	19.20	20.60	28.15	7.3	36.7
CNN-HN	12/81	17.20	19.76	27.09	14.9	37.1
<i>Average</i>		27.32	28.82	35.56	5.5	23.4

Source: Paul Kagan Associates, *Cable TV Investor* (28 September, 1987), p. 2.