Chapter 7

Rate Regulation and the Quality of Cable Television

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1. INTRODUCTION

Cable television price controls have had pronounced effects on the way cable systems deliver their video signals. This has been neatly demonstrated over the past decade or more in a series of experiments that policymakers have fortuitously granted: deregulation in the 1970s and 1980s, reregulation in the 1990s. In each instance, service suppliers have rationally sought to adjust their service menus and even technical delivery mechanisms in rather dramatic fashion. For the most part, quality changes induced by regulatory shifts produced entirely predictable results, but there have been some counterintuitive surprises. In any event, the changing regulatory environment has given researchers ample opportunity to examine the ways in which market forces operate under exogenous pricing constraints.

This chapter examines this subject matter by first examining the theory of price controls. Then it outlines three instances in which a regime switch occurred in the cable television marketplace: a 1979 deregulation of California cable television rates; the 1984 Cable Act, which deregulated prices nationally; and the 1992 Cable Act, which reregulated cable rates nationally. In each instance the impact of rate controls on consumers is examined, with emphasis placed on the important role of product quality.

2. THE THEORY OF RATE REGULATION APPLIED TO CABLE

When binding price controls are levied on a good or service, demanders and suppliers react—at a general level—in fairly standard ways.[1] Demanders are willing to bid up prices above rate-controlled levels and express this willingness with payments that are officially "nonprice" offers. Such offers may entail both transfers (attempts to pay suppliers in either 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). Both sorts of expenditures may be thought of as rent seeking, but only the latter entails social inefficiency. The first sort may be thought of as a simple (low-cost) evasion of the price-control mandate.

Suppliers also react. As binding price controls will increase the quantity demanded, *ceteris paribus*, the seller is tempted to withdraw costly inputs, and thus regain the pre-control equilibrium. In this, the supplier is constrained by the cost of input substitution (i.e., factor mobility). In the limiting case assuming zero transaction costs, a supplier facing regulated price of γP_0 (where P_0 = uncontrolled price and $\gamma < 1$) simply reduces the size of the package sold by $(1 - \gamma)$. Thus, price controls are rendered moot via quality depreciation. This supplier reaction holds both in the case where supply is upward sloping (and binding controls produce excess demand) and in markets where $P > MC$ for the last unit sold. In general, the profit-maximizing firm, under binding price controls, is led to engage in such quality-lowering substitution until the marginal gain (from total costs declining) equals its marginal cost (from lower revenues as consumers decrease their demand prices).

This straightforward but powerful result suggests that, even abstracting from consumer efforts to bid around legal constraints, price controls will never be binding so long as suppliers' inputs are perfectly mobile.[2] The operational corollary for policymakers is that price controls cannot be successfully implemented without some practical and/or imposed constraint on product quality. The package of services on which the price control is levied must be "sticky" with respect to quality, otherwise the "controlled" product will simply metamorphose into a new, deimproved, "decontrolled" product. Where resources are mobile but imperfectly so, the same incentive for suppliers to depreciate quality will obtain, yet the transition will entail transaction costs.

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 regulations circumscribing nonprice (or extra lease) bidding for apartments (e.g., key money, bribery, discrimination) have often been honored mostly in the breach (Hazlett, 1985). However, rules attempting to control product quality 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. Also important, however, are arbitration mechanisms that seek to monitor landlord behavior regarding "discretionary" payments for maintenance.

The apartment market has at least one very large difference when compared to the cable television market: the relative fixity of apartment services. Once the structural investment is sunk, the housing services flowing from a building cannot be instantly depreciated by the curtailment of maintenance expenditures.[3] Cable television services, however, entail both the transport function over cables (sunk similar to housing structures) and the provision of video programming. Those service menus are comprised of inputs that are highly mobile.

Not only is quality difficult to measure[4] 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.[5] Although public regulation has been fraught with difficulty (insofar as producing a price lower than the unregulated alternative is concerned) even when resulting from an intensive effort to determine input costs and optimal production patterns (see Stigler & Friedland, 1962), setting price without any ability to control the unit being sold appears a Herculean task.[6]

Another potentially important aspect of cable rate regulation is institutional. Quite distinct from utility rate regulation, cable television systems have not been regulated on a strict rate-of-return basis. Instead, franchise agreements (generally controlled by municipalities but in some cases involving state regulatory authorities[7]) have required that the franchisee receive permission to raise rates. Typically, cable rate regulation involves a city council voting simply to approve or disapprove price increases, and it does 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 rules, or guidelines, that are enforced by localities) sets rate caps rather than rate-of-return formulae.[8] The institutional structure is fundamentally different, then, from the cost-plus environment created by rate-of-return regulation, which has given rise to the overinvestment incentives described as the Averch–Johnson effect (Averch & Johnson, 1962).

The Cable Television Package

Cable program services are delivered in three broad groupings: basic services, premium channels, and pay-per-view. The most popular basic package contained an average (nationwide) of 35 channels in the General Accounting Office's 1991 survey of cable rates.[9] These include the locally available off-air (broadcast) signals (such as ABC, NBC, CBS, Fox, and PBS, and the independents), as well as cable-only networks (such as CNN, ESPN, Discovery, A&E, USA, and

MTV[10]). This basic package is the product that has been regulated or deregulated as dictated by regulatory policy. Premium services (such as HBO, Showtime, or Disney) are delivered on an á la carte basis and have been explicitly exempt from price regulation since the late 1970s.[11] Pay-per-view falls under this latter exemption.

Basic Tiers

Within the basic package there are varying tiers of service. The *limited basic* service 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 constituted a small portion of the market, although some have placed subscribership as high as 6%–9% of all cable households.[12] *Basic* service has often included a much larger complement of cable-only program networks. *Expanded basic* has often included an additional tier of relatively expensive basic programming, including regional sports networks. These latter two categories are generally what people refer to when they talk about cable television service.

Retransmission and Customer Service

In terms of identifying product quality, two final components of the cable television package are important. The first is the quality of broadcast signal retransmission. Because the cable household will spend at least half of its viewing hours watching broadcast signals over cable, it may be assumed that the increased signal quality of off-air channels received over wireline systems will account for some of the service for which consumers pay. (This is also implied by the fact that cable penetration rates are generally highest in areas in which off-air signals are not easily receivable via roof-top antennae.) The second is that cable companies can raise or lower the quality of their service. They can provide faster, more reliable technician appointments, have more or fewer signal interruptions, answer their customer service telephone lines faster or slower. Both elements of product quality are real, yet exceptionally difficult to monitor objectively. Hence, they will not be an explicit part of the analysis conducted herein.[13] The implicit assumption is that quality changes in measurable dimensions of product quality are highly correlated with quality changes in unmeasurable elements. When means of accounting for these aspects of quality are available, then the analysis may be appropriately expanded.

The response to price controls by demanders will be obviated if (a) suppliers can elastically respond to controls with quality changes that eliminate excess demand, and/or (b) the sector exhibits market power (with prices set above marginal costs) such that suppliers are willing to sell additional output at lower prices if constrained via price controls. It is apparent that at least one of these

factors is operative in cable markets, as the period of rate controls has not witnessed excess demand: All the consumers willing to pay the controlled rate have been able to receive service. Hence, it has not been necessary for consumers to engage in "nonprice bidding" behavior.

The supply side is more interesting, for cable systems have been freely able to adjust their products in response to price controls. First, cable programming products are highly mobile resources. As noted earlier, the system sending television-viewing products has sunk little investment into its software and may change its program menu at low transactions cost. This menu may be changed by retiering, adding to or subtracting from the total number of networks offered, changing the quality of programming on given networks, or some combination of these factors. The predictable implication of price controls include the following:

1. When binding rate controls are imposed: systems will shift programming to unregulated tiers or á la carte status, or systems will reduce program expenditures and offer lower quality program services on regulated tiers.

2. When rate controls are eliminated: systems will shift programming to collapse tiers and eliminate á la carte services, or systems will increase program expenditures and offer higher quality program services on (formerly regulated) basic tiers.

The efficiency argument for price controls must rely on the existence of monopoly power. (In competitive markets, the argument for price controls must rely on distributional issues, as total welfare will predictably decrease.) That is, forcibly constraining maximum prices charged by a supplier that otherwise sets prices above marginal cost[14] will increase output (and increase the sum of producers' and consumers' surplus) *ceteris paribus*. Yet, it is understood that the demand curve may well shift downward as the supplier reacts to controls by withdrawing inputs. The interesting question for welfare analysis is whether demand shifts are sufficiently small so that the net effect of the price controls is that the quantity of output sold increases. Only if price controls increase output will one be confident in concluding that regulation lowered effective (quality-adjusted) prices. Hence, I now examine the evidence to discern the ways in which price-controlled cable companies modified cable television service in response to changing regulations and to observe what overall impact on equilibrium quantities such regime switches appear to have had.

3. THE CALIFORNIA DEREGULATION (1979)[15]

A 1979 California statute unleashed cable subscriber rates from the control of local franchising agreements at the discretion of the operator. In AB699, the California Cable Television Association procured freedom to price in a com-

promise with public-access lobbyists. In exchange for an annual fee per subscriber per year, any cable system within the state could elect to free itself from existing municipal rate controls (although systems with very high penetration[16] levels were then supposed to raise rates no higher than the statewide average rate). The money paid went to a foundation to subsidize local origination/public-access programming on cable systems throughout the state.

Over the 1980–1985 period, only about one-fourth of California's cable systems elected to pay the modest fee of 50 cents per subscriber per year to deregulate. The California State Legislature appointed two official study groups to analyze the episode, and both concluded that the price increases emanating from deregulation were "innocuous." Ironically, the studies nonetheless dubbed the reform a failure because too few systems had deemed regulation sufficiently onerous to pay to escape it. (Hence, a disappointing program subsidy fund was created.) Moreover, the availability of the deregulation safety valve had made it more difficult for local governments to enforce cable franchise terms. Greater reneging on agreements by the cable firms was cited as the chief economic outcome.

The Data Supporting These Findings

The mean annual price increase for systems that elected to become deregulated minus the same-year, mean annual increase of nonderegulated systems, weighted by system subscriber size and summed across all 6 years, was 10.22% (statistically significant at the 99% level). In that the deregulated sample is likely to be biased (firms crossing over to deregulation are predictably those systems with the most to gain from freedom to price unconstrained), there appear modest price changes associated with the deregulated sample. More interesting, perhaps, is the fact that output, as measured by penetration, increased in the deregulated systems (by a statistically insignificant amount) relative to same-year, nonderegulated systems.[17] As a regime switch from effective regulation to free-market pricing would be accompanied by restriction of output, these results are highly suggestive.

What they imply is that although prices increased in the newly deregulated systems, quality of service was increasing *pari passu*.[18] That penetration did not fall in systems opting out of price controls, even over a 2-year period, implies that regulation was not effectively constraining prices. If it had, output restriction would have accompanied the price increases visibly attendant to deregulation. Instead, the price-control mechanism appears to have constrained service/quality elements of the cable television package. When controls were removed, quality improved to offset price increases, and output stayed the same or increased (by a statistically insignificant amount).[19]

This is actually the analytical rendition of the public arguments made on behalf of AB699 in 1979. The legislature was told that local government rate regulation was creating a drag on cable system capacity upgrades and delaying the offering of

the numerous new satellite networks then becoming widely available. As seen in Table 7.1, the number of such national program channels tripled between 1978 and 1980. On the operative quality margin, cable operators faced a choice between depreciating existing capital versus expanding channel capacity and delivering many more signals. The existence of local rate regulation added a regulatory tax on the decision to expand. Even when rate increases were routinely granted, the mere process of having to ask permission could impose significant costs. These might include compliance with demands to subsidize local origination/public-access services and to provide other nonremunerative amenities. (Often these were provided for in the cable franchise, but were actually supplied according to the relative importance of placating local officials.) Legal representation, litigation expense, and campaign contributions may also have been part of the expected cost of rate-increase requests. Moreover, the process imposed uncertainty on long-term financial decision making, thereby increasing business risk.

It is clear that in a dynamic industry rate controls may retard investment and growth, as firms evade the impact of controls by economizing on new technologies. Here, regulatory oversight would be severely crippled because the restriction of output is never observed. Instead, the carrier responds by failing to make efficient capital investments. This is analogous to a reverse Averch–Johnson effect. Whereas under rate-of-return regulation the firm overinvests so as to

TABLE 7.1
Cable Network Growth

Year	*Basic Nets (NTIA)*	*Total Nets (NTIA)*	*National Video Nets (NCTA)*
1976			4
1977			5
1978			9
1979			18
1980			27
1981	25	34	38
1982	35	46	41
1983	27	37	41
1984	26	35	49
1985	32	42	50
1986	44	55	60
1987	52	65	73
1988			73
1989			73
1990			74
1991			78
1992			78

Source: NTIA 1988, p. 11; National Cable Television Association [NCTA], Cable Television Developments (June 1993), p. 7-A. The NTIA and NCTA count national video networks differently, as seen. The total network count, in either case, includes basic and premium channels. The NCTA count includes superstations.

obtain a guaranteed profit on a larger capital base, under price caps with ineffective quality monitoring the firm underinvests. The regulated firm thus stints on capital expense, raising profits.

4. THE FEDERAL DEREGULATION (1984)

Federal rate deregulation began with the Cable Act of 1984, which achieved two major cable industry goals: It preempted local rate controls, and it strengthened incumbents' rights to franchise renewals by placing the burden of proof (for nonrenewal) on municipalities subject to procedural safeguards for franchisees.[20] In practice, this made it virtually impossible for a cable operator to lose his or her license; moreover, it significantly lowered the cost of rent-seeking (or rent-protecting) actions for the franchisee by decidedly shifting the legal burden.

The 1984 Cable Act has commonly been portrayed as a great triumph for incumbent cable operators (see, e.g., Powe, 1987).[21] That conventional wisdom is not challenged here. But the question remains: What was the source of the industry's victory? Although the question appears trivial by most journalistic and political accounts, which merely posit that the decontrol of prices has resulted in a textbook case of prices rising from competitive to monopolistic levels,[22] the market data following price decontrol suggest something a bit more complex.

The General Accounting Office issued three major surveys of cable rates following federal decontrol. In their 1989 report, it was found that the rates for the most popular basic cable tier rose 19% faster than inflation in the first 23 months of deregulation.[23] While this has been used in the legislative debate and legal literature to suggest that cable enjoys an unregulated monopoly pricing situation due to the 1984 Act (Allard, 1993b), the rest of the story leads elsewhere.

In Table 7.2 it is possible to compare the monthly prices of the most popular basic cable packages for systems that were deregulated by the 1984 Act with those that were already deregulated (24% of the sample fell into this category). Prices rose just 4% faster in the newly deregulated subset.[24] If the systems that were deregulated to begin with are used as a control group, which seems appropriate, this differential appears to be a measure of the marginal price impact of deregulation, before accounting for possible quality changes.[25]

Quality enhancements are theoretically probable (Leffler, 1982) and are strongly suggested by the data. The move to deregulation coincided with a large expansion of capacity, such that the real price-per-channel was virtually unchanged. Of course, if marginal channels are of little value to consumers, then this statistic will not fully compensate for the price rise of the total package. In this instance, subscription rates would be expected to fall. Yet, penetration levels rose from 55.5% to 57.1%[26] in the immediate postderegulation period (Table 7.2) and continued rising in subsequent years.[27] Indeed, the pattern of cable penetration, as displayed in Figs. 7.1 and 7.2, suggests that output growth rose after deregulation and moderated with the advent of reregulation.

TABLE 7.2
1989 GAO Basic Cable Rate Survey

	12/1/86	*10/31/88*	%Δ
Most Popular Tier Price (All Systems)	$11.70	$14.77	26 (19[a])
Price in Newly Deregulated Systems	$11.58	$14.76	27.4
Price in Systems Already Deregulated in 1986	$12.03	$14.90	23.8
Number of Channels (All Systems)	26.6	32.1	20.7
Price per channel (All Systems)	$.44	$.46	−1.4[a]
HBO Price	$10.46	$10.31	−7.0[a]
Price for a Package of Two Premium Channels	$18.64	$17.82	−9.8[a]
Revenue per subscriber	$21.58	$24.68	7.9[a]
Penetration	.555	.571	2.8
Percent of systems offering just one tier	76.5	84.1	10.0

Note. All dollar figures are monthly.
[a]Inflation adjusted by the GNP implicit price deflator.

It is important to note that cable prices also increased significantly faster than the Consumer Price Index (CPI) in 1989–1991.[28] Although reregulation advocates used such evidence to insist that cable was exercising monopoly power, the logic is flawed. Monopoly price adjustments following deregulation would be expected to result in immediate (or relatively short-term) price increases. Five years after the fact, however, hefty annual increases were still in evidence. This suggests that demand continued to shift outward, presumably due to increases in program quality. This is bolstered by the fact that output (measured by penetration) does not appear to have been restricted.

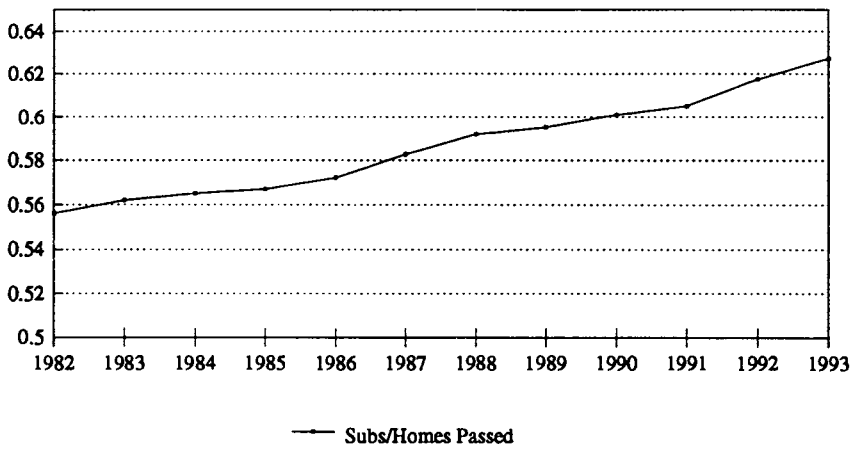

FIG. 7.1. U.S. cable penetration rates (1982–1993). Data are from Paul Kagan Associates, March 1994.

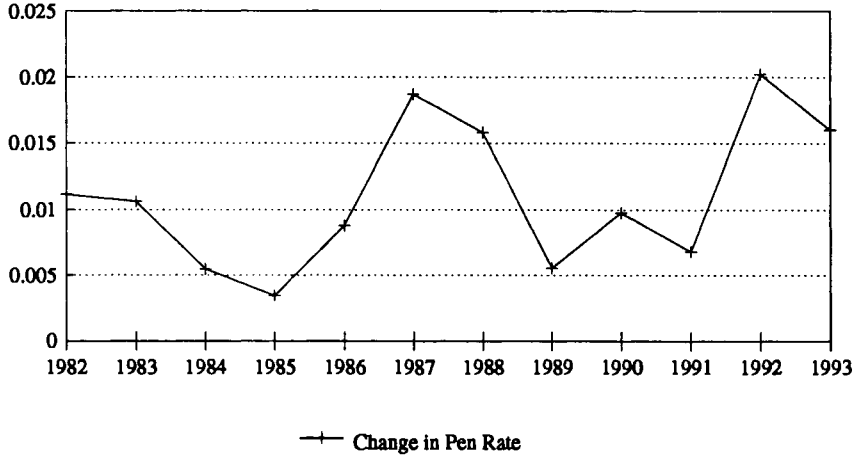

FIG. 7.2. Change in U.S. penetration rates (1982–1993). Data are from Paul Kagan Associates, March 1994.

Indeed, further evidence suggests consumer choice has improved not just in numbers of channels per system but in the quality of the programming on existing channels. Cable system expenditures for basic cable programming 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 (see Table 7.3). On a per-subscriber basis, this constituted a nominal increase in program costs of 333%.

Quality may be more definitively evaluated, perhaps, by examining viewing shares. This alternative measure of output takes into account inframarginal consumers who continue to subscribe to cable at higher prices. In Table 7.4, market share growth for basic cable networks appears to have accelerated, if anything, in the postderegulation environment.

Data for cable households, which abstract from the increase in the number of households subscribing to cable, reveal that the all-day average viewing share

TABLE 7.3 (Part 1)
Cable Program Expenditures and Internal Subscriber Growth, 1983–1993

	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 ($mil.)	234[a]	n.a.	n.a.	255	325	368	496
% change year-on-year	n.a.	n.a.	n.a.	n.a.	27	13	35
Spending per sub ($/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.	6	7	28

TABLE 7.3 (Part 2)
Cable Program Expenditures and Internal Subscriber Growth, 1987–1993

	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	10

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).

[a]National Cable Television Association, "Growth of Cable Television," factsheet distributed at June 1993 annual convention in San Francisco.

of basic cable networks was 17% in 1983–1984, the last season prior to the 1984 Cable Act. This share more than doubled, to 35%, by 1990–1991 (see Table 7.4). Whether this constituted an improvement from trend is difficult to discern. Paul Kagan Associates provides audience ratings for cable networks only back to 1983. More importantly, due to the deregulation of cable program content by the courts and the FCC in the mid- to late 1970s,[29] there was a bubble in network growth and viewership about this time. The pattern revealed in Table 7.1 is informative. Two incidents of deregulation appear to boost cable network formation: The first (eliminating controls on programming) led to a boom in 1978–1981 (when national satellite video nets increase from 9 to 38); the second—federal rate decontrol—promoted a boom in 1984–1987 (when basic networks, specifically, jumped from 26 to 52). It appears safe to conclude that cable television was becoming both more diverse and more popular with viewers following each round of deregulation.

TABLE 7.4
Broadcast and Cable Viewing Shares in U.S. Cable TV Households

Category	'83/'84	'84/'85	'85/'86	'86/'87	'90/'91	'91/'92	'92/'93
B'cast Net. Affiliates	58	56	56	53	46	47	46
Independent B'cast Stns.	17	17	17	17	17	16	17
Public Stations	3	3	3	3	2	3	3
Basic Cable Networks	17	19	19	23	35	35	36
Pay Services	11	11	10	10	9	8	8

Source: Nielsen Ratings reported in National Cable Television Association, *Cable Television Developments* (April 1994), p. 5A. Note that shares may sum to more than 100 due to the use of multiple TV sets within homes.

An entirely unsurprising result of deregulation is also observed with the elimination of tiering. Under the price regulations imposed by local governments, firms were able to shift desirable channels off the regulated package and into "expanded basic"—at generally unregulated prices. When decontrol came, industry analysts instantly proclaimed a shift away from tiering.[30] Expanded basic subscribership reached a peak in 1986 of 6.6 million subscribers, declined to just 3.8 million subscribers in 1989, and then rose rapidly again with the threat of reregulation to 12.2 million in 1990 and 15.0 million in 1992.[31] Similarly, it is found in the GAO data that the number of firms offering tiers beyond the standard package quickly fell from 23.5% of the systems surveyed to 15.9% (see Table 7.2) before heading up to 41.4% in 1991 amid fears of reregulation (GAO, 1991, p. 2). One can additionally see a reduction in pay prices (always deregulated). The picture that emerges is that cable operators responded to free-market pricing by consolidating packages, adding channels, upgrading program quality (spending more per channel), and dropping premium rates.[32]

Cable-asset values rose dramatically in the postderegulation period. Table 7.5 demonstrates virtually a doubling of the average capital value of a cable system over the 1985 to 1988 period. It is likely that deregulation had a positive impact on sales prices, but the deliberate, year-to-year, asset-value increases appear partially due to external factors such as the declining real-interest rates that were driving the overall stock market boom.[33] Zupan (1989, p. 409) noted that the cable industry stock index rose by 16% in the 2 months following the 1984 Cable Act, compared with an 8% rise in the S&P 500. Why it would take as long as 2 months to capitalize the benefits from proindustry legislation remains problematic. But, if one does ascribe the entire above-market gain of 8% to

TABLE 7.5
Sales Price Data for U.S. Cable Systems, 1982–1992

Year	*# Systems*	*Total Subs*	*$Value/Home Passed*	*$Value/Subscriber*
1982	212	934,071	486	922
1983	256	2,631,190	554	1,026
1984	295	3,023,144	520	948
1985	356	7,992,899	546	1,008
1986	620	6,797,164	733	1,339
1987	498	6,506,466	946	1,723
1988	596	7,596,344	1,162	2,003
1989	379	5,951,353	1,255	2,291
1990	105	531,207	1,277	2,049
1991	111	4,523,433	961	1,795
1992	97	1,876,754	1,023	1,768
1993	97	5,472,668	1,264	2,124

Source: Paul Kagan Associates, *Cable TV Investor* (25 January, 1993), p. 13; (12 February, 1993), p. 6; and (28 February, 1994), p. 12.

deregulation, this is still only a small fraction of the capitalization gains occurring postderegulation.

The slow, gradual rise in cable asset values during the mid- to late 1980s suggests that, even if deregulation attributed to the value changes, something more subtle than a relaxation of price controls was the cause. Consumer acceptance of a higher-quality, higher-priced cable package—as witnessed with the introduction of new services and higher rates in the 1987–1989 period—is the more compelling explanation. In eliminating the costs (including cross-subsidies) and riskiness associated with regulatory approval of rate increases, deregulation may have been indirectly responsible for this take-off in asset values. Yet this explanation has distinct consumer welfare implications from the view that price decontrol led to enhanced exercise of market power.

5. FEDERAL REREGULATION (1992)

The Cable Act of 1984 concluded a decade of deregulation. The result was a golden age for cable. Nationwide, the proportion of subscribing households tripled between 1976 and 1988; by 1993, 96% of U.S. homes were passed by cable with 60% of all households subscribing. The cable industry was collecting over $20 billion in annual revenues, system values doubled, and cable-only networks were accounting for nearly one third of all U.S. TV viewing.[34] Ironically, this marketplace success exposed the cable industry to political risks it had previously surmounted. A coalition led by broadcasting interests placed cable reregulation onto the policy table. Congress began debating reregulation of cable by 1988 and got seriously close to enacting legislation in October 1990.[35] By October 1992, a bill that included reregulation of cable television rates was enacted over President Bush's veto—the only instance of an override during the Bush Administration.

The Cable Consumer Protection and Competition Act of 1992 was a comprehensive measure that included the following[36]:

* Reversed 1984 Cable Act by reregulating basic cable rates (limited basic) and cable programming services—expanded basic tiers (i.e., everything up to á la carte or pay-per-view offerings). Directed the FCC to define the terms of regulation. In April 1993, the Commission decided to require cable systems to roll back basic prices up to 10%, on a per-channel basis. In February 1994 it upped the rollback to 17%.

* Allowed local TV broadcasters to charge cable systems for retransmission of their signals. Since the 1976 Copyright Act, broadcasters had been uncompensated. When the property-rights switch officially arrived in October 1993, however, cable companies refused to pay a fee to broadcasters, and the great majority of retransmission deals were consummated with no more than limited

in-kind (such as marketing cross-promotions) consideration. (Additionally, some new cable networks were created by broadcasters that will receive license fees in deals struck in lieu of retransmission payments.)

* Alternatively, gave broadcasters option of "must carry"—electing to give up any retransmission fees in exchange for (mandatory) carriage on local cable systems.[37] Most smaller, nonnetwork television broadcasters selected this option.

* Modest procompetition rules (e.g., program access for competitive video providers, uniform pricing by local cable systems that had been discriminating by dramatically underpricing new entrants, and directing cities to issue competitive franchises). Some rules were undermined by other provisions (e.g., the elimination of monetary damages against municipalities that unreasonably refuse to grant competitive cable licenses).

* No change in the 1984 telco-cable cross-ownership ban.[38]

* 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, and so on.

The evidence concerning the 1992 Cable Act's impact on product quality is difficult to quantify at this early stage. But the outlines of the industry's reaction to rate controls are already clear and are consistent with theoretical predictions. Cable suppliers are lowering the quality of the regulated tiers of service and shifting program services to unregulated status. Overall, there are no obvious indicators that regulation is promoting an increase in nationwide cable-viewing shares or in the penetration rate of cable subscribership, as would be expected if rates were reduced and quality stayed constant or increased (or fell by a lesser proportion than the decline in prices, as judged by the marginal consumer). There are, however, two interesting footnotes that describe how firms taking evasive maneuvers to escape price controls may improve product quality, although in ways that may entail significant social costs.

The clearest evidence is that there is no pronounced increase in basic penetration (see Figs. 7.1 and 7.2). Further, viewing shares for basic cable channels appear to have leveled off over the year or two preceding cable regulation.[39] A similar pattern appears in the internal growth rate of cable subscribers, a measure that largely abstracts growth gains due to new construction (see Table 7.3). This rate of growth fell from the 1984–1990 period, when it averaged 3.4% annually, to just 1.5% in the 1990–1993 period.[40] Basic cable program expenditures per subscriber did increase by 9% in 1992 and by 10% in 1993 (see Table 7.3), but these increases are significantly below the 26% and 34% increases posted in 1989 and 1990. Whether this apparent break in trend was related to gathering momentum for reregulation cannot be proven by the data, but it is consistent

with the explanation of the impact of reregulation given in the trade press and as reflected in the formal public policy debate, as shown later.[41]

At this point, a clearer picture may be had by examining the retiering strategies being employed to fundamentally alter the delivery of basic cable service by restructuring premium (unregulated) offerings and the political positions actually taken by affected interest groups vis-à-vis cable rate regulation. There is an abundance of anecdotal evidence concerning (a) adjustments that cable systems are undertaking in response to rate reregulation, amply covered by the trade press; and (b) the official positions taken by the various interest groups during the public debate concerning reregulation. But first it is necessary to describe the extent and form of the rate-regulation scheme itself.

Rates Under Reregulation[42]

The process by which cable rates are regulated under the 1992 Act is complex. The administrative structure created by Congress relied heavily on the Federal Communications Commission to determine exactly how controls would be instituted and what the regulations would consist of. Only the bare outlines were given by the Act itself.

The Act mandated that there would be two levels of rate regulation: the first for basic service, a tier including off-air broadcast signals as well as public access and government channels (popularly referred to as "limited basic"); the second for all higher tiers of "programming services."[43] The first level of service would be primarily regulated by local governments, although the FCC was instructed to create regulatory guidelines and to officially certify local franchising authorities before they were allowed to carry out rate regulation.[44] The price standard created by the FCC under the Act is that consumers are not supposed to be charged more than they would be if, in fact, "effective competition" prevailed in their community. The second level of regulation would be 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 this term.

On April 1, 1993, the Federal Communications Commission announced that it would freeze all tiers of basic cable at their levels as of September 30, 1992, and institute rate rollbacks as of September 1, 1993, by as much as 10%.[45] Such rate regulations were to be 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 September 30, 1992 (adjusted for inflation up to the present). This format applied to both basic and programming services.[46]

The 10% (maximum) rate rollback was based on the FCC's estimation of the difference between monopoly and competitive cable prices, but it employed a

troublesome definition of the latter. The 1992 Act left it to the FCC to define its own "reasonable" rate standard, but did—in another context[47]—define *effective competition* in three ways:

Type A: systems serving under 30% of the homes in their franchise areas.

Type B: systems serving markets in which a second multichannel video operator can serve at least 50% of the households and does serve (as subscribers) at least 15%.

Type C: systems that are municipally owned or are private systems competing with a municipally owned system that passes 50% of the homes in the franchise area.

The FCC elected to borrow this statutory definition of effective competition and to estimate a price equation of the following form:

$$LNP_i = \alpha + \beta_1(ABC_i) + \beta_2(RECIPSUB_i) + \beta_3(LNCHAN_i) + \beta_4(LNSAT_i) + e_i$$

where LNP = natural logarithm of the composite price per channel for up to three tiers of service, weighted and adjusted to exclude franchise fees and include equipment and other subscriber charges as described previously; ABC = 1 if the community unit belongs to one of the categories comprising the statutory definition of effective competition, as described earlier, and ABC = 0 otherwise; RECIPSUB = 1 per number of households subscribing to the cable system; LNCHAN = natural logarithm of the number of channels in use in the tiers of service examined; and LNSAT = natural logarithm of the number of satellite-delivered channels in the tiers of service examined (FCC, 1993, Appendix E, p. 12).

This price equation was estimated using data on 377 cable systems, of which 79 were Type A, 46 Type B, and 16 Type C. As a group (ABC), the dummy coefficient equals −0.0939 and is significant at 99%. The Commission rounded this up to 10% and identified it as the percentage price discount associated with competitive systems. This was controversial, and a further round of public comment was undertaken by the Commission,[48] although the Commission declined to change its methods prior to the September 1993 rollback. When run as separate dummy samples in the FCC's model, the three distinct definitions of competition produce coefficients of +9.2% (A), −22.1% (B), and −38.7% (C), all of which are statistically significant at 99%. In other words, the A group demonstrated prices above those typically found in monopoly systems. The inclusion of these systems dilutes the price-lowering impact of actual head-to-head compilation such that only about a 10% differential is observed.[49] This estimation procedure formed the basis of the Commission's rate rollback in September 1993, although the FCC is reported to be considering a reexamination of the 10% figure.[50]

Retiering, Repricing, and Restructuring Cable Program Services

The low-cost avoidance method with which to deal with cable rate controls remains retiering. The twist regarding the 1992 Cable Act is that policymakers were aware of this escape route and included legislative provisions that were designed to deal with it, giving the FCC authority to regulate all tiers of "cable programming services"[51] pursuant to complaints from either local government officials or cable customers. This has increased the distance that cable companies must traverse to spring basic cable networks free of rate regulation. It has led to two forms of retiering: (a) adjustments between limited basic and expanded basic tiers, which largely concerned operators preparing for the April 1, 1993 "freeze," and (b) a shift of high-quality cable networks off basic altogether (either dropping channels or moving them to premium status).

Limited basic service is being raised in price in most markets, whereas higher tiers are being lowered—such that the net result for a customer subscriber to both is naught. (This is ironic, in that such basic tiers were traditionally created as low-cost "lifeline" services.) Cable television subscribers in Hollywood, CA, for example, found the restructuring worked as shown in Table 7.6.

This shift was prompted by concerns that regulations going into effect in April 1993 would freeze basic cable rates at artificially low levels. More complicated restructuring also took place. The general pattern: prices for limited basic rise; the incremental charge for expanded basic falls; charges for additional outlets and remote controls fall; other incidental charges increase.

For instance, cable companies are attaching "cost-based" installation charges. What had been a free hook-up for Albertville, AL subscribers is now $10.05. Also, companies believe they actually can charge for additional outlets if pay channels (such as HBO or Playboy) are on the additional television. A Houston system is still able to charge $3.95 per month for an additional outlet this way.

TABLE 7.6
Cable Rate Changes in Hollywood/Wilshire Franchise

	Current Price	*New Price*
Basic Broadcast Service	$2.10	$9.85
Standard Service	$19.90	$13.50
Remote	$2.10	$.75
Basic Broadcast Service plus Standard Service and Remote Control Package	$24.10	$24.10
Additional Outlet with Remote Control Package	$7.88	$7.88
—Additional Outlet	$5.78	$7.13
—Additional Outlet Remote Control	$2.10	$.75

Source: Letter to Continental Cablevision subscribers in Hollywood/Wilshire Los Angeles franchise announcing April 1, 1993 rate schedule.

And many systems are tacking new line items onto customers' bills; Toledo, OH cable customers used to receive converters and home service calls at no additional charge. Now converter boxes are billed at cost—$2.54 per month—as is home wiring—31 cents a month.

Systems are experimenting with various combinations to see how to make the new regulated package revenue-neutral by shifting basic programming services to unregulated status. The strategy can either entail raising premium channel prices (unregulated) and marketing them more intensely, or putting newer, cheaper, less watched channels on basic tiers and shifting popular networks to à la carte status. A system in San Antonio, for instance, is splitting TBS and WGN off into per-channel status: $1 and 50 cents, respectively, or $1.25 a month for both. E! (part time), VH-1, and the Comedy Channel were added back into basic. The net result was that rates dropped 17 cents per month.

Many systems actually increased prices for basic cable service: "In Paragon Cable's Manhattan system, the overall basic-plus-standard rates will rise from $22.95 to $23.65, which includes a $3.32 converter fee and a 20-cent charge for a remote."[52] (Rates also rose from $22.95 to $23.58 in Time Warner's New York City system.) In the Staten Island Paragon system, six channels (Madison Square Garden Network, MSG2, TBS, Discovery, AMC, and the Cartoon Network) were severed from the basic package and put on à la carte basis. Costing from 50 cents to $2.00 per channel, the package sells for $3. Even with the à la carte tier, however, the basic package dropped $1.60 per month.[53]

The degree to which nominal prices have gone up or down following the September 1993 implementation of rate regulation is not well understood, as shown earlier. The picture is even more complicated, obviously, when quality changes are accounted for. Tele-Communications, Inc., the largest cable operator (serving nearly 20% of U.S. subscribers), was chagrined when a memo written by one of its vice presidents and sent to over 500 system managers was leaked to the *Washington Post* in November 1993. The memo 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!"[54]

Another affect of reregulation appears to entail the substitution of cheaper and/or lower quality programming for existing cable networks. C-Span, a high-quality (if inexpensive) public affairs network, suffered losses mounting to 1,000,000 subscribers (either dropped entirely or reduced to part-time carriage) on "Sept. 1 [1993] as systems retiered rates and channel line-ups."[55] Broadcast stations and home shopping outlets are convenient stations to add to basic packages both because they reduce the cost per channel and they comply with the "must carry" rules contained in the 1992 Act. Home shopping cable networks

actually pay for carriage, giving cable operators added economic incentive to add such channels. They also tend to dilute quality, however, or the cable operator would presumably have been offering such programming preregulation.

The same incentive, however, may have beneficial impacts on basic cable quality by prompting operators to add channels, thereby giving some upstart networks additional audience coverage.[56] The way the FCC rate regulations have been crafted also has led most systems to lower charges for additional outlets, which may in turn increase audience share of basic cable networks.[57] With enhanced advertising revenue streams, the quality of these channels could rise over time. Ultimately, however, channels that are added simply to alleviate binding price constraints could themselves be replaced by programming that is cheaper still.[58] Moreover, the overall impact on the quality of cable network programming does not appear to be positive. Not only have some cable networks lost significant carriage, cable audience shares are not increasing relative to trend, and both producers and programmers have tended to strongly oppose rate regulation, as discussed later. It is difficult to conclude that such ad-hoc mechanisms to water down rates represent a long-lived equilibrium.

The ultimate irony may be that reregulation will speed technological change. Over the medium to long term, systems may have greater incentives to change the (regulated) marketing margins altogether by upgrading cable plant to the 500-channel environment. Combined with addressable electronic controls, this will circumvent the regulatory regime almost entirely by shifting to virtual video-on-demand delivery. Regulation will be rendered moot either by adding vast numbers of "Fishbowl Channels"[59] or by taking the entire cable package á la carte.[60]

These incentives to improve product quality may not enhance consumer welfare, however, as they derive from rent-seeking behavior. Even socially useful investments will entail welfare losses if, due to strategic behavior, they are undertaken too soon or with the wrong production function.[61] This is especially important in that enhanced competitiveness appears to be a policy substitute for rate regulation. It is now apparent that market forces are themselves pushing both convergence of technologies across several telecommunications markets and competition between delivery systems. The impact of allowing telephone company competition (which the 1984 Act specifically prohibited and on which the 1992 Act was silent) is but one of a number of procompetitive strategies that could produce a market-driven result producing greater channel capacity and a broader selection of video choices.

Political Coalitions and the 1992 Cable Act

It is perhaps easiest to gauge the impact of cable reregulation from the self-interested positions taken on the issue of cable rate regulation. Employing the assumption that economic interests tend to loyally assert the public policy po-

sition consistent with profit maximization, one can examine the key participants in the debate on rate regulation to gain an understanding of its likely effects.

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 added constraints that do not provide offsetting benefits.[62] But constraining profits does not necessarily transfer surplus to consumers. If cable systems lower quality by a sufficient degree, rate regulation can clearly lower consumer surplus (and, of course, industry profits, which cannot increase with price controls in that adding a constraint cannot improve firm pricing decisions). 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.

Far more interesting is the position taken on rate regulation by the owners of cable programming. As a group, cable programmers were strongly opposed to reregulation. They openly stated their fear that via retiering and other operator adjustments reregulation would negatively impact demand for basic networks. New nets, such as the Sci-Fi Channel, were particularly fearful of regulation. They 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.[63] The actual producers of the programs themselves, represented by the Motion Picture Association of America (MPAA), were also strong opponents of reregulation.[64]

If rate controls did, in fact, lower prices charged by the retail distributors of programming, this would increase penetration and, all else equal, raise the demand for software inputs (networks and programs). Moreover, it would increase audience sizes for basic cable networks and increase their ad revenue streams. Their opposition to reregulation indicates that they believed that the quality-adjusted price of cable would increase and the demand for their programming would thereby fall.[65] Their fears regarding reregulation were very quickly realized: "The Cable Act of 1992 has already adversely impacted cable operators. It is causing a virtual freeze in new programming decisions. Cable operators are proceeding very cautiously when it comes to adding new services like the Cartoon Channel and the Sci-Fi Channel because it may prove difficult, if not impossible, to recoup the investment."[66]

Most interesting of all was the position taken by the broadcasters. Long in a competitive position vis-à-vis cable, particularly in policymaking in Washington, DC, the broadcast industry was keenly interested in the Cable Act. In fact, they were the chief interest-group backers of the legislation, funding a nationwide ad campaign promoting the measure. The industry had long pushed cable rate regulation, including arguing forcefully for it in a 1990 FCC proceeding in which no other issues (such as must-carry and retransmission consent) were involved.[67]

The broadcast industry, as a competitor with cable for viewing audiences, would be expected to benefit from measures that raise the quality-adjusted price

of cable services, as this would prompt consumers to substitute away from cable programming into broadcast television fare. In promoting rate regulation, the broadcast industry signals its view that quality (as evaluated by consumers) will adjust downward by more than price, causing a migration of viewers in its direction. This could only come as welcome news to broadcasting, an industry that has seen its market share drift inexorably to cable in recent years. When the FCC released a study in 1991 that described this trend in painful detail, 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."[68]

The evidence gleaned from the rent-seeking competition to obtain favorable legislation speaks loudly: Reregulation was expected to reduce quality by at least as much as it lowered price. This would decrease consumer demand for cable-only programming and increase demand for the substitute television product—broadcasting. Nothing that we observe in the early days of reregulation contradicts such expert testimony.

QUALITY AND PRICE REGULATION

The lessons from cable rate regulation have been diagrammed in recent policy regime switches, as we have gone from regulation to deregulation, and back again. The evidence clearly indicates that operators will adjust service quality as predicted by microeconomics. They will attempt to circumvent controls by reducing quality. In cable markets this is done with particular ease. Programming inputs are highly mobile, and suppliers' demands for software are highly elastic with respect to the prevailing regulatory regime. Satellite networks flourished after deregulation in the mid-1980s and are very nervous about their fate after reregulation in the 1990s. Most fundamentally, cable operators enjoy constitutional protections in their choice of viewing fare supplied, and even if regulators could successfully monitor the price of a given set of channels, they are barred by law from controlling the value of the programming provided thereon.

The evidence from deregulation in both California in the early 1980s and nationwide over the late 1980s indicates that, while prices rose, quality adjusted upward so as to entirely offset such changes. The performance of cable penetration and basic cable viewer ratings indicate that output expanded rather than contracted under decontrol. The current experience with reregulation appears to substantiate this analysis, particularly as how broadcasters—selling the substitute product—are most anxious for cable companies to succumb to the hand of reregulation. This is either curiously altruistic or an affirmation of the view that such price controls raise the effective price of quality-adjusted cable service.

It would be ironic, however, if the best evasive maneuver employed by regulated cable companies turns out to be a hastened leap into the next generation

of technology. In that event, one could argue that the incentives for cable firms to avoid rate regulation were so strong that they abandoned their traditional market entirely, creating a substantially new product space as a safe haven. New and improved video service on the information superhighway might well exhibit higher quality, yet the firms supplying it might well be able to exploit even greater degrees of market power unless new forms of competition are brought to bear. Then again, such competition could—by all outward signs—have delivered the next generation of technology to the subscriber's door even faster had the prohibitions against it been relaxed to begin with. Using regulation to encourage quality-enhancing evasion seems a rather circuitous and danger-filled path to a long-run optimum.

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ENDNOTES

1. See Cheung, 1974, for a general theory of price regulation, and Hazlett, 1991, for an analysis of how price controls affect cable television quality.
2. This mobility assumption applies to factor inputs and the divisibility of outputs.
3. In his 1974 article, "A Theory of Price Control," Steven Cheung used 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 that become, in essence, common property when binding controls create excess demand. That Cheung focused on apartment rent controls led him to skip the straightforward point that a supplier (landlord) can reclaim lost property rights by withdrawing input expense. 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 the withdrawal of inputs that are worth at least their marginal cost to consumers is a wasteful rent-seeking dissipation: To recoup some of their rents lost from price controls, suppliers are willing to curtail socially efficient investments.
4. 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 problematic 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).
5. 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, this status as Constitutionally protected publishers received a large boost when it was extended to a telephone company attempting to compete in cable. The federal court decision found that Bell Atlantic, a regional telephone company, had a First Amendment right to provide transport of

video signals and to own the programming that was provided directly to subscribers. (See *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]).

6. The problem of attempting to control two outcomes (price and quality) with but one policy instrument may not be simply remedied by reregulation. The Constitutional constraint presumably remains. A recent Federal Trade Commission report identified the statutory problem 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). Although the report cited First Amendment case law in cable, the FTC appeared to be confused about the ability of Congress to reregulate should it choose to (as it did in 1992). Yet, no such confusion is warranted. First Amendment protections for cable operators are strong and likely to increase in future years.
7. Currently, nine states assume some authority for cable TV regulation: Alaska, Connecticut, Delaware, Hawaii, Massachusetts, New Jersey, New York, Rhode Island, and Vermont. ("Governors Urge Restraint in Preempting States in Development of National Telecom Principles," *The Cable-Telco Report* [1 August, 1994], p. 17.)
8. 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.
9. GAO, 1991.
10. Broadcast stations that are distributed nationwide to other cable systems (such as WOR, WGN, or WTBS) are called *superstations* and are generally counted as cable networks.
11. They continue to be exempted from price controls in the 1992 Cable Act.
12. According to FCC Commissioner James Quello (Allard, 1993b, p. 107).
13. When examining shifts in demand for cable, as measured by such indices as subscriber penetration rates, however, consumer preferences will reflect these dimensions of quality.
14. The analysis for monopsony buyers, obviously, mirrors the analysis for monopoly sellers.
15. This section relies heavily on Hazlett, 1991.
16. Penetration here means subscribers per homes passed. This is a measure of output adjusted for system size. Within the context of the regulations, it was thought that systems with greater than 70% penetration were located in areas in which cable was more of a necessity.
17. Differences in the price changes of newly deregulated firms over a 2-year period reveal a fly-up in rates of just 5.58%. Penetration results are similar as for the 1-year experience.
18. Direct measurements of the quality of cable service (e.g., cable channel ratings for California cable systems) are not available.
19. This does not mean that the rate controls were meaningless or foolishly imposed by the political system. Their importance was in helping local officials and interest groups enforce the rent distribution schemes that had been part of the original franchise agreements. All else equal, firms would rather price in an unconstrained environment, charging a high monopoly price for a high-quality cable package. They will, if constrained by price controls, charge a low monopoly price for a low-quality cable package. But that is a second-best alternative, as indicated by revealed preference on the supply side.
20. Typical cable franchises are awarded for durations of 15–20 years. For a discussion of the franchising process, see Hazlett, 1986.
21. The then-president of the National Cable Television Association, James Mooney, obviously agreed with this assessment. "Hanging in 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).

22. "Why have basic cable television rates shot up about three times inflation in the past two years, after more than a decade of stable prices 30% to 40% below inflation? The answer is simple: Despite the fact that virtually no consumers have more than one cable company to choose service from, Congress allowed the Federal Communications Commission to deregulate cable pricing a few years ago. With growing evidence that the cable industry is price-gouging video consumers, Congress must correct its mistake and put a lid on cable rates" (Gene Kimmelman, "Slam a Lid on TV Cable Rates," *Cleveland Plain Dealer* [6 June, 1990]; [Kimmelman is executive director of the Consumer Federation of America]).
23. Although the Cable Act passed in 1984, it set the following timetable for rate decontrol: 1985: 5% rate increased allowed; 1986: 5% rate increase allowed; 29 December, 1986: price decontrol in any cable system deemed "effectively competitive" by the Federal Communications Commission. The FCC so defined a cable system serving a community in which just three over-the-air broadcast signals could be received. This deregulated 97% of U.S. cable systems.
24. The GAO does not publish standard deviations to accompany its mean values, ruling out tests of statistical significance.
25. A 1990 GAO survey found that in the November 1986–December 1989 period this differential grew to 15% (47% vs. 32%). Although these figures are likely to be distorted by measuring the lowest priced basic tier (which includes "sham" rates with virtually no subscribership) instead of most popular tier prices, the 4% difference found in the shorter period and the 15% difference found in the longer period bound the 10% difference found in the California data.
26. Overall cable subscribership increased 15% during the 19-month period, but much of this growth was due to new cable plant being constructed. A rise in penetration rates tends to adjust for plant size.
27. There is some disagreement over cable penetration (and other) numbers, but the alternative sources appear to agree on their 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 penetration results are also roughly consistent with Paul Kagan's numbers; in 1986, mean MSO (multiple system operator) penetration was 57.4%, rising in 1988 to 58.5%. Paul Kagan Associates, *The Cable TV Financial Databook* ([June 1987; p. 55], [June 1989; p. 64]).
28. For instance, basic cable prices increased 15% between December 1989 and April 1991, according to a GAO survey. From the December, 1986 deregulation (4½ years previous), the price of the most popular basic programming tier was found to have increased 61% in nominal terms or 36.5% when adjusted for inflation. Again, the real price change per-channel was virtually nil. As the number of channels received on this tier rose from 27 to 35, the real price increase per channel was 5.3%, or 1.2% annually (see GAO, 1991, pp. 2, 5).
29. In the 1960s, the Federal Communications Commission had enacted anti-cable rules in order to protect television broadcasters from competition (see Besen & Crandall, 1981).
30. Paul Kagan wrote: "Expanded basic, which was originally intended to circumvent basic rate restrictions, will be a casualty of deregulation" (Paul Kagan Associates, *The Cable TV Financial Databook* [June 1987], p. 10).
31. Paul Kagan Associates, *Cable TV Investor* (12 February, 1993), p. 5. The 1992 Cable Act was actually the culmination of years of debate in Congress over reregulation; a debate that featured a flurry of new bills in 1990. As the GAO wrote: "Some of the legislative proposals introduced in 1990 would have generally restricted rate regulation to only the lowest tier" (GAO, 1991, p. 2).
32. This was just what the industry observed at the time: "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" (Paul Kagan Associates, *The Cable TV Financial Databook* [June, 1987], p. 10).

33. This interest-rate sensitivity appears obvious in hindsight. With the credit crunch and HLT (highly leveraged transactions) restrictions placed on cable financing by federal regulators in late 1989, system prices dropped sharply.
34. In the 1991–1992 television season, basic cable averaged a 24% viewing share, whereas pay channels averaged (a combined) 6% (NCTA, June, 1993, p. 5A).
35. In May 1990, a leading cable analyst wrote that cable stocks plunged nearly 20% in the last quarter of 1989 due to three factors, one of which was "proposed cable rate reregulation advanced by the U.S. Senate" (Paul Kagan Associates, 1990, p. 6). (The other two were the collapse of the junk bond market, and government banking restrictions on highly levered transactions.) The reregulation threat came and went—and came for good—over the next 3 years.
36. See also Allard, 1993a, 1993b; Hazlett, 1993b, 1993c.
37. "Must-carry" rules had been struck down in 1985 and again in 1987 by U.S. courts as violations of the cable system operators' First Amendment rights to select their own programming. In 1993, the U.S. District Court of Appeals (D.C. Circuit) surprised many industry analysts by approving the "must-carry" rules contained in the 1992 Act (*Turner Broadcasting System, Inc. v. FCC*, No. 92-2247 [D.C. Cir.; 8 April, 1993]). The U.S. Supreme Court over-ruled this decision, remanding the case to a district court for further fact-finding (*Turner Broadcasting System, Inc. v. FCC* [S. Ct., No. 93-44; 27 June, 1994]).
38. The ban on telco entry into video has since been found unconstitutional by a federal court in the suit filed by Bell Atlantic (referenced in endnotes). The issue is being litigated both on appeal and in actions filed in other jurisdictions by each of the remaining six Regional Bell Operating Companies, as well as GTE and Southern New England Telephone. U.S. West has also received a favorable opinion from the U.S. District Court in Seattle (*U.S. West, et al. v FCC*, No. C93-1523R, "Order Granting Plaintiffs' Motion for Summary Judgment and Denying Defendants' Motion for Summary Judgment," [U.S. District Court, Western District of Washington; 15 June, 1994]).
39. Looking at cable households only, average all-day viewing shares continued to increase in 1992 and 1993, but at a considerably lessened pace from that seen in 1986–1990. Over the 3 years immediately following deregulation, viewing shares increased from 23 to 35, or 16.0% annually. The annual increase amounted to just 1.4% between 1990 and 1992 (see Table 7.4).
40. This is calculated geometrically from the annual growth rates shown in Table 7.3. Note that the internal growth rate measures the percentage increase in new subscribers on existing plant. It expands both due to new housing (which fills in on existing cable) and due to penetration increases. Hence, the housing slowdown associated with the 1990–1991 recession undoubtedly slowed internal growth independent of any shift in cable demand. Importantly, however, the 1992 reregulation does not appear to shift the rate upward, as would be implied if the rate freeze and subsequent "rollback" had significantly lowered quality-adjusted prices relative to trend.
41. A marketing survey appears to show that consumers' "perceived values" for cable programming were declining over the 1991–1993 period. A firm that surveys 1,000 cable customers annually, asking them to explicitly put a value on the top 20 basic cable networks, found average values declined 8% between 1992 and 1993 (and 38% between 1991 and 1993). What to conclude from this is uncertain, however, as the reliability of this evaluation method is suspect in that it does not measure actual consumer choices (Paul Kagan Associates, *Marketing New Media* [20 December, 1993], p. 2).
42. This section follows Allard, 1993b.
43. Pay-per channel and premium channel services, in which consumers pay for the individual channel or program, were explicitly exempted from price regulation.
44. If the local franchising authority fails certification, the FCC is required to regulate cable rates in the jurisdiction itself.

45. A host of other issues were addressed, and the explanation for these rules explained. 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.
46. Equipment charges, such as monthly fees for remote controls, additional outlets, converter boxes, and so on, were also controlled, but the rate benchmarks were binding on the overall package including equipment rental. Hence, if equipment charges are reduced, this allows operators to raise monthly subscription charges as long as the new rate, overall, falls within the benchmarks.
47. The Act exempted a system from rate regulation if it was found to be effectively competitive.
48. The author submitted an affidavit in those proceedings. See Hazlett, 1993a.
49. Of course, there are substantial reasons to exclude A systems from the definition of "effectively competitive." First, many of them are simply systems that have failed to construct a cable plant covering an entire franchise area. Because the 30% subscribership proportion is defined as "subscribers divided by homes in franchise area," a system can qualify, even with normal penetration, just by having a sufficient number of homes in the franchise area that are not passed by cable. Second, the economics are counterintuitive: A system can be declared "effectively competitive" by having prices so high and/or service so poor that it signs up a small proportion of its potential market. This has been sarcastically designated as "the bad actor exemption." See Hazlett, 1993a.
50. Paul Fahri, "FCC Rethinks Cable TV Rules With Eye Toward Price Cuts," *Washington Post* (25 January, 1994), pp. A1, A9. After this chapter was written, the commission did recalculate the "competitive rate differential," setting it at 17% (Federal Communications Commission, 1994). (See Hazlett, 1994.)
51. This did not include à la carte or pay-per-view as noted earlier, but did include all expanded basic tiers.
52. Matt Stump, "The Big Apple Rereg Picture," *Cable World* (30 August, 1993), p. 12.
53. See Mark Robichaux, "How Cable-TV Firms Raised Rates in Wake of Law to Curb Them," *Wall Street Journal* (28 September, 1993), pp. A1, A12.
54. Vincente Pasdeloup, "More Trouble on Rereg Front: FCC, AGs investigate MSOs' new cable rates," *Cable World* (22 November, 1993), pp. 1, 65.
55. "In Rereg's Wake, C-SPAN's Losses Continue to Mount," *Cable World* (13 September, 1993), p. 10. The network had already lost 500,000 subscriber households during the summer due to "must carry" cable systems being forced to include marginally watched broadcast stations in their basic packages.
56. "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).
57. Rod Granger, "Will Re-regulation Give a Boost To Cable Ratings?" *Multichannel News* (25 October, 1993), p. 14.
58. The conflicting nature of the incentives facing cable system managers was described by one programming executive: "Re-regulation is like a bullet ricocheting through a room; you never know what it's going to hit" (*Ibid.*).
59. Industry jargon for worthless channels added simply to evade rate controls by diluting per-channel charges.
60. This is the ultimate in price control evasion: Exit the regulated market so as to simultaneously enter a deregulated market serving the same characteristic demand function. There are, of course, offsetting incentives that tend to discourage investment in the newly regulated sector, and the net impact on investment is ambiguous. Rate controls may create a discontinuous capital supply function, in which small increments of capital are discouraged, but large expenditures (which jump the supplier to a new technology altogether) are encouraged.

61. The race to settle land in the American West pursuant to the Homestead Act of 1863 has been characterized as a classic example of such wasteful rent seeking. Although the land that citizens homesteaded eventually became valuable, there were significant costs involved in staking claims to the land prior to the time settlement was efficient on its own terms (*i.e.*, without the added incentive provided by the competition to establish a property right). See Anderson and Hill, 1990.
62. 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, rather than have the issue hanging over their heads. The industry's real motive for getting legislation passed was to calm fears that the ban on telephone company competition (codified in the 1984 Act) would be removed. 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).
63. Richard Turner, "Sci-Fi Channel Encounters a Hard Sell Due to Competition, Reregulation Threat," *Wall Street Journal* (24 May, 1990), pp. B1, B5.
64. 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, which would allow broadcasters to capture some program rents that producers, logically enough, preferred to think of as their own.
65. Vertical integration of satellite programmers is widespread in the cable television industry, and it may be that programming executives opposed rate regulation simply at the behest of corporate management (which was relatively concerned about the fortunes of its operating division). This would not explain, however, why Hollywood interests and unaffiliated programmers were equally negative about cable reregulation.
66. Paul Kagan Associates, *Cable TV Law Reporter* (30 November, 1992), p. 1.
67. See Hazlett, 1993b.
68. *Broadcasting* (1 July, 1991), "But Words Can Never Hurt You?" (Editorial), p. 78.

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