

**Public Interest Comment on
The Securities and Exchange Commission's Concept Release on**

REGULATION OF MARKET INFORMATION, FEES AND REVENUES¹

The Regulatory Studies Program (RSP) of the Mercatus Center at George Mason University is dedicated to advancing knowledge of the impact of regulation on society. As part of its mission, RSP employs contemporary economic scholarship to assess rulemaking proposals from the perspective of the public interest. Thus, our comments on the Securities and Exchange Commission's proposed regulations for market data fees do not represent the views of any particular affected party or special interest group, but are designed to evaluate the effect of the Commission's proposals on overall consumer welfare.

Background

Current regulation treats stock quotations and transaction prices – “market data” – as a common-pool resource rather than a proprietary asset owned by the trading venue that produces the information. Self-regulatory organizations (SROs), such as the New York Stock Exchange and Nasdaq Stock Market, report market data to several processing networks, which in turn consolidate the information on each stock, option, or other financial instrument into a single stream and sell it to securities firms, investors, and other users. There are multiple networks, but each network is the sole source of consolidated data for a given financial instrument. Fees paid to access market data are currently set through negotiations among representatives of the networks and various securities industry participants, subject to Commission oversight.

The Commission's proposal

The Securities and Exchange Commission proposes to establish cost-based guidelines that the networks must use to set their fees.² No network would be permitted to earn revenues exceeding its costs. The cost-based limit on revenues would be set through a four-step process:

1. Calculate direct costs incurred by SROs “only and entirely” for providing market information.

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²Concept Release, pp. 29-31. (All references to page numbers in the Concept Release refer to pagination that results when the HTML version is printed out on paper.)

2. Calculate each SRO's "common costs" that contribute substantially to the value of market information, but are also incurred for other reasons.
3. Allocate a portion of these common costs to the production of market information.
4. Allocate each SRO's "total cost" of market information (direct plus the allocated share of common costs) to the different networks producing market data for the securities the SRO trades.

In addition to this initiative to constrain total market data revenues, the Commission solicits comments on whether the various fee schedules discriminate against different types of investors. The Commission does not offer a specific proposal to address any alleged discrimination, but the Concept Release expresses a preference that fees for different types of subscribers "should be justified by such legitimate factors as differences in relevant costs or degree of use."³

The Commission's justification

The Commission initiated this proceeding on a concern that monopolistic pricing of information could diminish access for, or discriminate against, retail investors:

The Commission intends to assure that market information fees applicable to retail investors do not restrict their access to information, in terms of both number of subscribers and quality of service. In addition, such fees must not be unreasonably discriminatory when compared with the fees charged to professional users of market information.⁴

Although much of the Commission's argument employs the rhetoric of fairness to individual investors, the underlying issue here is market power, pure and simple. If providers of information lack market power, then information is as widely available as practicable. If providers of information possess market power, then some or all investors may not be receiving as much or as good information as possible. There is a differential impact on individual investors only to the extent that networks possess and exercise a differential degree of market power in the sale of market data to individual investors.

The Commission assumes that networks possess market power in the sale of market data, and it proposes cost-of-service guidelines to constrain such power. In so doing, the Commission ignores the fact that its own initiatives are the source of any market power the networks may possess. In the early 1970s, the Commission repeatedly called for the creation of a centralized system that would provide unrestricted public access to consolidated market data. In 1975, Congress granted the Commission authority to regulate securities communications systems, essentially giving the Commission authority to create centralized market data consolidation and reporting systems. Both Congress and the Commission appear to have assumed that such processing and reporting systems

³Concept Release, p. 31.

⁴Concept Release, p. 5.

would be monopolies, akin to public utilities – an assumption reflected in the current structure of the market.⁵

Overview of Mercatus analysis

Before adopting a more binding form of utility regulation, the Commission would do well to learn from recent trends toward competition and deregulation in utility industries. In many other industries traditionally regulated as utilities, legislators and regulators have spent the past 20 years searching for ways to promote competition and reduce or eliminate price regulation. Their actions have conferred substantial benefits on consumers. Competition and deregulation in the telecommunications, natural gas, airline, railroad, and trucking industries have produced \$50-60 billion annually in lower prices, improved service quality, and other consumer benefits.⁶ Such results amply support the adage that competition is a much more effective regulator than administrative decisionmaking.

Nevertheless, the Commission proposes to impose stricter cost-of-service regulation on networks that consolidate market data. The Mercatus Center's analysis leads us to believe that the proposed guidelines are likely to harm investors, for three principal reasons:

1. Networks already face natural constraints on their ability to exercise market power, so the guidelines would likely increase costs while offering few offsetting benefits.
2. Even if networks can exercise some market power, cost-of-service regulation could easily produce worse results than the current system, and it is unlikely to produce better results.
3. The true source of any market power the networks might possess is the Commission's policy of creating an information cartel instead of relying on competition in the provision of market data. Since price regulation is a poor substitute for competition, the Commission should focus on promoting competition in the provision of information instead of regulating a government-created information cartel.

Several Factors Constrain Network Market Power

User ownership

The networks that consolidate and sell market data are governed by SROs, which are in turn governed by members. Most of these members are securities firms, who are also significant purchasers of information from the networks. For this reason, networks have a strong incentive to operate economically and to charge prices that are no higher than

⁵Concept Release, pp. 15-17.

⁶Robert Crandall and Jerry Ellig, *Economic Deregulation and Customer Choice* (Fairfax, VA: Center for Market Processes, 1996); Clifford Winston, "Economic Deregulation: Day of Reckoning for Microeconomists," *Journal of Economic Literature* 31 (September 1993), pp. 1263-1289.

they need to be. Monopoly overcharges reaped by networks come at the expense of the SRO members, who ultimately govern the networks through the SROs.⁷

User-owned networks might have an incentive to charge monopoly (or at least discriminatory) prices to vendors who seek to provide enhanced information services in competition with the networks. However, the proposed cost-of-service regulations are not necessary to address this particular type of anticompetitive conduct. As the Commission notes in its discussion of the *Instinet* case⁸, it is possible to require a cost-based justification for fees that networks charge their information service competitors without imposing cost-of-service regulation on all network fees.

One might also think that user-owned networks could profit by charging discriminatory prices to non-SRO members, such as vendors or individual investors who are direct subscribers. However, the SRO members have a strong financial interest in ensuring that accurate, low-cost information is available to non-SRO members, because non-members are either investors who are the SROs' customers or information vendors who serve the SROs' customers.

Benefits of information dissemination

The extent of public dissemination of information regarding transaction prices, bid and offer quotations, order and quotation sizes, and other market variables is often referred to collectively as "market transparency." Generating these prices and quotations is not merely a byproduct of the trade activity, but is an integral part of the trading process. Financial exchanges succeed when they provide an efficient means to economize on trading and transaction costs, including information collection and analysis, counterparty search, bargaining, and contract enforcement.

Individuals or institutions that use an exchange, or any other trading system, face some combination of direct and indirect costs to support these necessary functions. Direct costs of trading include brokerage commissions (which may include information fees), exchange fees, and the bid-ask spread. Indirect costs include the potential price impact of a large trade and the associated effect on price discovery. Some investors value immediacy, and they realize an indirect cost when slow execution of their orders exposes them to risks associated with changing market conditions and inventory holding. Investors seek to use the trading system or exchange that minimizes their total costs, including information fees, while satisfying their preferences for immediacy and quality executions. The definition of execution quality varies with the investor, and it encompasses the elements of price, speed of execution, anonymity, transparency, liquidity, and transactions costs, both direct and indirect. Different investors will choose to trade in the markets providing them with the combination of execution quality and transaction costs that best fits their preferences.

⁷For an elaboration of how user ownership controls monopoly problems, see Douglas A. Houston, "Toward Resolving the Access Issue: User-Ownership of Electric Transmission Grids," Reason Public Policy Foundation Policy Insight No. 129 (August 1991).

⁸Concept Release, pp. 19-20.

An increase in market data costs may cause investors to wait to pay less in commissions, spreads, and other transaction costs (or induce them to buy less of an asset, so there will be less investment and lower trading volume). Therefore, the SROs have every reason to set market data fees so that they do not price investors out of the market. If market data fees are set too high, then the securities firms who control the SROs (and ultimately the networks) lose commissions and trading profits.

The benefits and efficiencies associated with the operation of an exchange or other trading system are a result of constituting an exchange such that decisions regarding operations are the ones that accomplish the objectives of the organization, in much the same way managers employ practices that increase the value of a business. Maintaining a reputation for fair and competitive execution of trade is crucial to maximizing investor participation in the market. In this way, the interests of the members of the exchange, who are professionally engaged in servicing customer orders, are aligned with those of investors.

One thing is clear: investors and their agents are most interested in sending their orders for trade to markets where information is current, accurate, and readily available. Pricing financial market information in such a way that precludes or limits their access would have a negative effect on their willingness to use an exchange or other trading system. No one wants to stake his money on an investment through an exchange or trading system that is shrouded in uncertainty. Therefore, exchanges and other trading systems have incentives to disseminate information that provides a level of transparency that facilitates maximum investor participation.

Research in finance supports the notion that liquidity and other measures of market quality improve when information that helps traders formulate their demands is readily available.⁹ Pricing information at unreasonable rates such that it is inaccessible or unavailable to investors would erode the qualitative attributes of the markets and increase costs. Overpricing information would not only affect investor interest in a direct way by decreasing order flow, but may also harm the price efficiency and liquidity of the market, further discouraging investors from using the exchange or the trading system.

Precedents from contemporary futures markets

A critic might argue that the failure of stock exchanges to publicly report and consolidate market data prior to 1975 shows that they have strong incentives to keep market data private. However, financial markets have changed dramatically since 1975. Since brokerage commissions are no longer fixed, brokers and trading venues alike have stronger incentives to compete for trading business. In addition, falling costs of

⁹Brown-Hruska and Laux, "Complementary Markets," George Mason University working paper (1999) find liquidity and price efficiency increases when there is greater transparency between markets for the same asset. Marco Pagano and Ailsa Roell, "Transparency and Liquidity: A Comparison of Auction and Dealer Markets with Informed Trading," *Journal of Finance* 51:2 (June 1996), pp. 579-611, find more transparency results in lower trading costs for uninformed traders on average, but this result does not hold for trades of large size.

information technology have made widespread, real-time dissemination of market data to a wide audience practical and economical.

Contemporary futures markets demonstrate how widespread real-time information dissemination occurs in the absence of extensive regulatory mandates. Regulations issued by the Commodity Futures Trading Commission only require end of day reporting of total volume, open interest, futures for cash transactions, option exercised and unexercised for the day. The degree of contemporaneous price and quotation reporting, along with the fees charged for that information, remains within the private domain of the individual futures exchanges. Even without regulation to dictate the form and scope of information dissemination, the futures exchanges provide real-time continuous reporting of price information to vendors, who in turn disseminate the information to the public.

The experience of the futures markets in the dissemination and pricing of information illustrates that the Commission's policy of seeking a uniform and centralized stream of information may be unnecessary at best, and possibly harmful since it attenuates market forces that would lead SROs to provide the desired level and price of transparency for the customers they serve.

Market data under a system of for-profit exchanges

Exchanges are currently organized as not-for-profit corporations, governed by committees elected by the membership. The New York Stock Exchange and Nasdaq Stock Market have recently proposed to convert from the member-owned not-for-profit structure to shareholder-owned corporations. This change would help them raise capital to upgrade their technology and establish new organizational structures that would facilitate innovation and reduce the cost of stock trading. If the move to shareholder ownership lowers the total costs to trade, it would increase investor participation in the market. Thus, proposals by the not-for-profit exchanges to issue shares and incorporate as for-profit enterprises would not lessen incentives for exchanges to provide information at a reasonable cost. In fact, moving to a for-profit structure may strengthen exchange incentives to make market data widely available so that trade volume and investor participation are maximized.

Shareholder ownership reduces the possibility for conflict of interest in decision-making since it separates control at the exchange (or corporate) level from the individual business activities (such as trading functions). For example, a market owned by traders may be resistant to innovation or technological change if it is seen as jeopardizing the activities of traders who profit from the current way of doing business. Converting a stock market to a publicly-held, investor-owned enterprise gives its managers a single, clear goal: make their market as efficient as possible to attract the most trading business. The stock offering also generates funds to "buy out" dealers who would otherwise oppose change – much as two business partners might buy out a third who disagreed with their expansion plans.

Research on other financial organizations reveals that shareholder-owned firms generally have lower costs and a lower probability of failure than user-owned firms.¹⁰ The principal reason is that ownership by shareholders makes the organization's management more accountable for performance. Since shareholders receive the profits, shareholders owning a large number of shares have strong incentives to monitor managerial performance. Since shares can be sold, owners have strong incentives to maximize the long-term value of the enterprise, rather than grab a quick profit. In addition, shareholder-owned companies can offer their employees stock and stock options as an incentive for good performance. Managers of shareholder-owned firms also face the threat of takeovers if they perform poorly. For these reasons, investors can expect shareholder-owned stock markets to reduce the cost of trading and promote long-term survival of the institution.

As publicly-traded enterprises, the exchanges' reputation for market quality and efficiency would be monitored not only by the investors in the stocks traded there, but also those investors who hold the shares of the exchange and the market that trades them. The market is a swift and unforgiving enforcer when systems fail and trading and information streams are disrupted. For example, incidences of network failures in the online brokerage markets have led to substantial price depreciation of the companies' stock.¹¹ On the other hand, the market rewards efficiency improvements with stock price appreciation. As a result, a for-profit structure would also encourage innovation by the exchange in the systems and procedures that enhance trading processes, information production and dissemination.

Even If Market Power Exists, Cost-Of-Service Regulation Could Produce A Worse Result Than The Status Quo

Even if networks possess some market power, that does not mean cost-based regulation would necessarily improve on the status quo. The relevant choice is not between imperfect markets and idealized regulation, but between imperfect markets and imperfect regulation. The Commission will maximize investor welfare only if it selects the least imperfect option, and the imperfections associated with cost-of-service regulation are large indeed.

¹⁰Benjamin E. Hermalin and Nancy E. Wallace, "The Determinants of Efficiency and Solvency in Savings and Loans," *Rand Journal of Economics* 25:3 (Autumn 1994), pp. 361-381; James A. Verbrugge and John S. Jahera, Jr., "Expense-Preference Behavior in the Savings and Loan Industry," *Journal of Money, Credit, and Banking* 13:4 (Nov 1981), pp. 465-76, and the references cited therein. Some studies show that mutual savings and loans have lower costs than savings and loans owned by shareholders; this is most likely because for very small institutions, the efficiency incentives are outweighed by the costs associated with issuing stock. (See Mike Carhill and Iftekhar Hasan, "Mutual to Stock Conversion, Information Cost, and Thrift Performance," *Financial Review* 32:3 (Aug. 1997), 545-68.) Since stock exchanges are very large organizations, the efficiency incentives will most likely outweigh the costs of issuing stock.

¹¹Jeremy Selwyn, "Brokers Cope with Outages," *Computerworld* 33:7 (Feb 15, 1999), p. 95.

Inefficiencies of cost-of-service regulation

Scholars have identified several ways in which cost-of-service regulation raises costs and curtails innovation. These include the Averch-Johnson effect, attenuation of entrepreneurial incentives, and political influence costs.

Averch-Johnson effect

Regulatory scholars have long known that cost-of-service regulation can raise costs by distorting the regulated firm's choice of inputs. If the rate of return on investment permitted by regulation exceeds the firm's cost of capital, then the firm has an incentive to substitute capital for other inputs. If the rate of return permitted by regulation is below the firm's cost of capital, then the firm has an incentive to avoid capital investments. These possibilities are not just theoretical. There is strong evidence that the former distortion occurred in the electric utility industry during the 1960s, and that the latter distortion occurred during the 1970s and 1980s.¹² In either case, consumers paid higher prices than necessary because of distortions introduced by cost-of-service regulation.

Effective Commission oversight of cost-based fees for market data will ultimately require the Commission to decide whether the rate of return the networks earn on their capital investments is "reasonable." Thus, the Commission will have ample opportunity to create incentives for networks either to over- or under-invest.

Attenuation of entrepreneurial incentives

With prices and profits limited, regulated firms have less of an incentive to make highly risky investments that could generate large cost reductions or produce substantial revenue streams from new products and services.¹³ In theory, regulators could prevent this problem by permitting the firm to earn a sufficient risk premium. In practice, regulators face a continual temptation to disallow the risk premium once an innovation is introduced and proven successful, because the successful innovation will likely remain in place even if regulation reduces its profitability. After the fact, it is often difficult to distinguish between high profits resulting from innovation and high profits resulting from market power. Expropriating these profits, however, reduces incentives for future innovation.

Market data networks may be especially vulnerable in this regard, because reasonable people could disagree over whether the networks in the future will be high-risk, high tech

¹²Leon Courville, "Regulation and Efficiency in the Electric Utility Industry," *Bell Journal of Economics* 5 (Spring): 53-74; Paul M. Hayashi and John M. Trapani, "Rate of Return Regulation and the Regulated Firm's Choice of Capital-Labor Ratio: Further Empirical Evidence on the Averch-Johnson Effect," *Southern Economic Journal* 42 (January 1976): 384-97; H. Craig Petersen, "An Empirical Test of Regulatory Effects," *Bell Journal of Economics* 6 (1975): 111-26; Robert M. Spann, "Rate of Return Regulation and Efficiency in Production: An Empirical Test of the Averch-Johnson Thesis," *Bell Journal of Economics* 5 (Spring): 8-52; E. Ray Canterbury, Ben Johnson, and Don Reading, "Cost Savings from Nuclear Regulatory Reform: An Econometric Model," *Southern Economic Journal* (Jan. 1996): 554-66.

¹³Israel Kirzner, "The Perils of Regulation: A Market Process Approach," in *Discovery and the Capitalist Process* (University of Chicago Press, 1985): 119-49.

innovators, or relatively stagnant utilities with little opportunity for innovation. By imposing price regulation that diminishes entrepreneurial incentives, the latter assumption could easily become a self-fulfilling prophecy.

Political influence costs

When regulation constrains prices, the regulated firm and its customers both have incentives to capture wealth transfers by influencing regulators and legislators. Such battles are commonplace in regulated industries.¹⁴ Although the firms fighting over the wealth transfers benefit, the resources they expend are pure waste from a broader social perspective.¹⁵ Cost-of-service regulation permits the regulated firm to pass these costs through to its customers. Therefore, a comprehensive accounting of regulatory costs should include not just administrative costs, but also the resources expended on lobbying, lawyering, and expert opinions intended to persuade the SEC and Congress that a particular form of regulation or pricing structure should be adopted.

Market data fees are currently established through industry negotiations. Before heading down the cost-of-service regulation road, the Commission would do well to consider the experience of a regulatory body that has been moving in the opposite direction. The Surface Transportation Board has limited authority to regulate rates and terms of service, but even this small amount of regulatory authority gives some industry participants an irresistible temptation to expend resources in an attempt to displace negotiation with regulation. One Board member lamented:

It is unfortunate that parties to this proceeding are unwilling to reach negotiated settlements on these issues.

More unfortunate is that such reliance on government to solve private-sector problems encourages a cycle of dependence that weakens further the parties' negotiating resolve and encourages a return to third-party intervention that, as history records, was equally detrimental to both railroads and their customers.

Indeed, without a negotiated settlement among the parties this issue likely is headed for the lap of Congress where solutions too often are hastily drawn, politically motivated and for a long-time afterward insulated from change even by private agreement of the parties who had the dispute.

¹⁴See, e.g., R.K. Huitt, "Federal Regulation of the Uses of Natural Gas," *American Political Science Review* (June 1952): 455-69; Jerry Ellig, "Why Do Regulators Regulate? The Case of the Southern California Gas Market," *Journal of Regulatory Economics* (March 1995); Jerome Ellig and Jack High, "Social Contracts and Pipe Dreams," *Contemporary Policy Issues* 10 (January 1992): 46-48.

¹⁵Michael Crew and Charles Rowley, "Toward a Public Choice Theory of Monopoly Regulation," *Public Choice* 57 (1988): 49-67; James Buchanan, Robert Tollison, and Gordon Tullock, *Toward a Theory of the Rent-Seeking Society* (College Station: Texas A&M University Press, 1980).

Whatever the eventual outcome, the fact remains that the parties have knocked loudly upon our door, ignored subsequent admonitions to settle these matters privately among themselves and continued to beg for government intervention...

...I continue to believe that more efficient solutions to all shipper-carrier disputes are to be achieved in the marketplace and through direct negotiations without the intrusion of government. Perhaps my admonition in favor of negotiation should include this paraphrase from Isaiah 1:18-20: "Come let us reason together, or ye shall be devoured by the sword."¹⁶

Given the inefficiencies associated with regulation, it is no surprise that several classic economic studies have found that price regulation of utilities has actually done little to reduce prices.¹⁷ The tendency of regulation to raise costs and thwart innovation outweighed its tendency to reduce prices by curtailing profits.

Would the proposed cost guidelines have these perverse effects?

Proponents of the SEC's proposed guidelines might perhaps argue that the drawbacks presented above apply only to strict cost-of-service regulation, not to the more flexible guidelines that the SEC has proposed. Such an argument is illusory.

If the proposed cost-of-service guidelines actually accomplish the intended result of constraining network fees, then they will create the perverse incentives that inflate costs and reduce innovation. The SEC can avoid the perverse incentives only if the guidelines fail to constrain network fees – in which case it is pointless to promulgate the guidelines.

Would incentive regulation help?

The shortcomings of cost-of-service regulation are well known among regulators and economists who study public utilities. For this reason, many regulatory commissions are moving to various forms of "incentive regulation" that attempt to mitigate the negative aspects of cost-of-service regulation. The most common form of incentive regulation starts with some type of cost-based rates, but then allows prices in subsequent years to increase at the same percentage as some price index, *minus* an adjustment of several percentage points that reflects expected increases in productivity or decreases in costs. In this way, the regulated firm shares its cost reductions with customers.

The Concept Release states the Commission's principal motivation for its proposed cost-of-service guidelines: "The Commission remains concerned that retail investor fees have not properly kept pace with changing technology and increased demand."¹⁸ Incentive

¹⁶Comments of Commissioner Owen in the Bottleneck Cases, Surface Transportation Board Nos. 41242, 41295, and 41626 (December 27, 1996).

¹⁷George J. Stigler and Claire Friedland, "What Can Regulators Regulate? The Case of Electricity," *Journal of Law & Economics* 5: 1-16; Thomas G. Moore, "The Effectiveness of Regulation of Electric Utility Prices," *Southern Economic Journal* 36 (April): 365-75.

¹⁸Concept Release, p. 5.

regulation might appear to be the ideal way of addressing the Commission's desire that market data fees for retail investors reflect falling costs, while avoiding many problems associated with cost-of-service regulation. A look at some of the price data in the Concept Release, though, suggests it is unlikely that incentive regulation would improve on the actual price performance of the networks.

The accompanying table shows that most fees applicable to retail investors have fallen by 50-90 percent in nominal terms since 1994, with many large reductions occurring since 1998.¹⁹ Most notable are the price reductions associated with the two largest networks, Network A and Nasdaq Stock Market, which produce market data for the vast majority of publicly-traded equities.

System and Type of Fee	1994	1998	Current	% reduction 1994-current	% reduction 1998-current
Network A (NYSE-listed stocks), nonprofessional, monthly per subscriber	\$4.25	\$5.25	.50- \$1.00	76-88%	81-90%
Nasdaq, nonprofessional, monthly per person	\$4.00	\$4.00	\$2.00	50%	50%
Nasdaq, per query	.015	.01	.005	67%	50%
Network B (Amex-listed stocks), nonprofessional, monthly per person	\$3.25	\$3.25	\$1.00	69%	69%
OPRA (options exchanges), nonprofessional, Monthly per person	\$2.00	\$2.00	\$2.50	25% increase	25% increase
OPRA, per query	.02	.01-.02	.01-.02	0-50%	0-50%

Incentive regulation in other industries accomplishes nowhere near this magnitude of price reduction. Incentive regulation of utilities usually assumes a productivity adjustment of 1-5 percent annually, which means that prices are allowed to increase at a rate 1-5 percentage points below the rate of increase of the relevant price index. Figures of 1 or 2 percent appear in industries with less potential for technological change, like electric transmission and natural gas pipelines. In telecommunications, arguably the industry most analogous to the market data networks, the expected productivity adjustment is somewhat higher. Most states applying incentive regulation to telecommunications assume a productivity adjustment of 2 or 3 percent annually. The Federal Communications Commission assumes an annual 6.5 percent productivity-induced price reduction when it regulates the prices that local phone companies charge the long-distance companies for access.²⁰

¹⁹The Commission reached a similar conclusion, noting, "most of the fees applicable to retail investors have been reduced in recent months by 50% to 80%." Concept Release, p. 5.

²⁰Kenneth W. Costello, "Advisory Paper to the Advocacy Team, Georgia Public Service Commission, on Alternative Forms of Regulation," National Regulatory Research Institute (May 1, 1998), p. 11; Costello, "A Real -Life PBR Plan for an Electric Utility: The Case of Central Maine Power," presentation at New

Suppose the Commission had implemented incentive regulation in 1994. Even a huge productivity offset of 6.5 percent would have resulted in a nominal price reduction of only 26 percent between 1994 and the end of 1999. SEC-administered incentive regulation would have had to be draconian indeed if it were to improve on the price performance of the networks under current arrangements.

The SEC guidelines cannot be justified unless the Commission can demonstrate that the potential for perverse incentives is outweighed by the benefits associated with constraining any market power the networks might possess. However, neither cost-of-service regulation nor incentive regulation offer much hope of improving on the actual level of network fees under the status quo. The guidelines appear to be all cost and no benefit.

Government Policy Is The Source Of Any Market Power That Exists

The Commission's proposal is especially ironic because existing SEC regulations are the root cause of any monopoly power the networks might possess.

The Commission's policy of centralizing information from all markets via the networks has essentially created an information cartel. While this may have been an effective way of ensuring that someone would produce a high-quality stream of market information 30 years ago, the very advances in information technology and investor sophistication that prompted the Concept Release suggest that competition in information provision is now possible.

To see how this competition can work, consider the production of price information for a single security. Most major securities today trade in multiple venues, under the supervision of multiple SROs. Historically, the Commission has been concerned that trading in multiple venues would prevent at least some investors from receiving the best prices when they buy or sell. Commendably, the Commission has avoided concluding that the appropriate solution is to assign a monopolist exchange or dealer to each security. Instead, the Commission has pursued centralization of quotation and price information. Each venue must report prices and quotations to a network that holds a monopoly over the production of a consolidated stream of price information for that security. The network then sells the consolidated stream of information to multiple buyers, who either use the information themselves or resell it to investors and other clients.

A restructured, more competitive market could constrain any tendency toward monopoly pricing of information. Such competition could occur in at least three ways: competition among trading venues, contestability among trading venues, or competition among the networks selling market data.

Mexico State University (May 22, 1997); list of state telecommunications price cap plans furnished by the National Regulatory Research Institute.

Actual competition among trading venues

Individual securities today trade in multiple venues in the United States and abroad. Instead of mandating consolidation of price data through a network, the Commission could simply let each SRO report its own stream of price data.

Even if no network existed to centralize the data, competitive forces would ensure that each SRO offered comparable and accurate price information. Thanks to advances in information and communications technology, arbitrage across trading venues is inexpensive and rapid. Arbitrageurs can profit by subscribing to price data from all SROs and then trading securities across venues to profit from price discrepancies. Their action tends to equalize prices across venues. As a result, the competing streams of price information from different SROs will tend to be good substitutes. Investors and other consumers of information who are not engaged in short-term arbitrage can thus avoid the cost and trouble of purchasing price information generated by all trading SROs; they need only subscribe to price information from one.

A critic might argue that this arrangement would allow arbitrageurs to reap short-term profits at the expense of less informed investors who do not choose to subscribe to streams of price information from all SROs. Such a profit opportunity could appear unfair to less-informed investors, and it might even be regarded as an example of the type of informational asymmetry that the creation of the national market system is supposed to stamp out.

Such a view is shortsighted. It is true that, under a system in which each SRO reported a data stream directly to the public, arbitrageurs could earn profits by trading with less-informed investors. However, this system could actually reduce the cost and improve the availability of market information available to less-informed investors. The actions of arbitrageurs would ensure that information streams from competing venues trading the same financial instrument would be of comparable quality. Instead of (implicitly or explicitly) purchasing a consolidated stream of information from all SROs, investors would have the less costly option of purchasing a stream of information from a single SRO. Competitive information provision by SROs would also eliminate the potential for monopoly profits or heavy regulatory costs associated with current arrangements. Compared to these potentially large costs, the profits reaped by arbitrageurs may represent a lower-cost means of making high-quality information available to the general public.

To understand the effect of competition among trading venues, the Commission must consider whether retail investors get a better combination of cost and information quality under a system in which monopolies consolidate data streams, or one under which arbitrage forces competing SROs to produce comparable data streams.

Contestability among trading venues

Competition among exchanges can sometimes lead to a concentration of most liquidity and trading interest in a security in a single trading venue. However, such concentration

need not lead to monopoly pricing of market data, even if the venue has proprietary ownership of the information. The reason is that trading of financial instruments is a highly contestable market, and potential competition constrains the total price that a venue can charge for transactions and data.

Futures markets provide a good illustration of how venues with proprietary ownership of their price data are nevertheless constrained by potential competition. The London International Financial Futures & Options Exchange (LIFFE) dominated the market for futures contracts on European benchmark German 10-year bonds until the Deutsche Terminboerse (now Eurex) introduced a screen-based version of the same contract. Within months of its conversion to electronic trading, Eurex became the new dominant market for trading German bonds, completely displacing the LIFFE and leading LIFFE to adopt an electronic trading system of their own.²¹ More recently, the Chicago Board of Trade and the Chicago Mercantile Exchange introduced the competing futures and options contracts on mortgage-backed securities. While volume is likely to migrate to one exchange, the experience of LIFFE suggests that market power is fleeting as long as traders are given the ability to choose the market in which they trade.

Thus, even if all liquidity for a stock gets concentrated in one SRO, that SRO will not be able to set a monopoly price for information (or transactions) because it would be easy for another SRO to displace it by offering better terms. This displacement might be total, as in the case of the German bonds on LIFFE, or it might involve a particular sector of the market that finds that one type of trading mechanism better matches its needs.

Contestability of markets may be one reason we have seen market data fees fall so drastically. For example, Island Electronic Communications Network (ECN) provides free real-time display of all its quotes. While their quotation information is not included in the consolidated quotation tape for NYSE stocks, competitors on the brokerage level, including Datek Online and Interactive Brokers, consolidate information from the various trading systems, including ECNs, Nasdaq, and the NYSE. Not only does this provide an example of how competition in information provision results in a consolidated real-time information stream available to investors at very low cost, it also provides a vehicle for investors to choose a trading system with a level of transaction costs, information, speed of execution, and other attributes that fit their preferences.

Competing market data networks

The Commission could also address any perceived market power problems by fostering competition in the production of consolidated market data.

Each network currently has a monopoly on price data for each security or other traded financial instrument. In an era of inexpensive telecommunications and computer

²¹“London Exchange Going Electronic With German Bond,” Wall Street Journal, Silvia Ascarelli, (June 18, 1998), p. B2.

processing technology, it is highly likely that the existing networks and new entrants could compete in the provision of consolidated market data.

The Commission's Concept Release simply assumes that provision of consolidated information for each security is and will remain a natural monopoly. While this may have been an accurate assumption 30 years ago, when no one was providing consolidated quotation information, times have changed. Demand for market data has skyrocketed while computer and communications costs have plummeted. Both of these conditions suggest that, even if data consolidation were a natural monopoly in the 1970s, the market is almost certainly large enough to support multiple competitors today.

Market data as pure information, of course, cannot be "used up;" the fact that one user looks at a price quotation does not mean that there is any less information for others to use. This "nonrival consumption" characteristic of information might lead a superficial observer to conclude that data consolidation must be a natural monopoly, since it would seem that only one firm is necessary to produce the consolidated stream. But the relevant costs for determining whether data consolidation is a natural monopoly are the computer and communications costs associated with receiving, processing, marketing, and sending data. It is these costs, in conjunction with demand, that should be examined to determine whether data consolidation is a natural monopoly.²²

Before moving toward stricter price regulation, the Commission should undertake a rigorous inquiry to determine if the networks are natural monopolies. Such an inquiry is especially imperative because research on other industries widely believed to be natural monopolies, such as telephone service, cable TV, gas pipelines, and even electricity distribution, has revealed that this judgment was premature.²³ In most of these cases, there is strong evidence that monopoly was more an artifact of government policy than an inevitable result of natural demand and cost conditions. Even where cost conditions suggest that a service is a natural monopoly, inefficiencies associated with regulation and the absence of competition are often so large that they offset any cost advantages associated with monopoly.

If the networks are not natural monopolies, then the Commission would do much better to promote competition than to regulate prices.

²²See William J. Baumol, John C. Panzar, and Robert D. Willig, *Contestable Markets and the Theory of Industry Structure* (Harcourt Brace Jovanovich, 1982).

²³Thomas W. Hazlett, "Competition vs. Franchise Monopoly in Cable Television," *Contemporary Policy Issues* 4 (April 1986): 80-97; Robert Poole (Ed.), *Unnatural Monopolies* (Lexington: D.C. Heath, 1985); Jerry Ellig and Michael Giberson, "Scale, Scope, and Regulation in the Texas Gas Transmission Industry," *Journal of Regulatory Economics* (March): 79-90; Harry G. Broadman and Joseph Kalt, "How Natural is Monopoly? The Case of Bypass in Natural Gas Distribution Markets," *Yale Journal on Regulation* (1989): 181-208; Walter M. Primeaux, Jr., *Direct Electric Utility Competition* (Westport, CT: Praeger, 1986); John E. Kwoka, Jr., *Power Structure: Ownership, Integration, and Competition in the U.S. Electricity Industry* (Kluwer Academic Publishers, 1996); Richard T. Shin and John S. Ying, "Unnatural Monopolies in Local Telephone," *Rand Journal of Economics* 23:2 (Summer 1992): 171-83; Ramonette B. Serafica, "Was PLDT a Natural Monopoly? An Economic Analysis of Pre-reform Philippine Telecoms," *Telecommunications Policy* 22:4-5 (May-June 1998): 359-70.

Competition is multi-faceted

In discussing competition in the provision of market data, it is important to emphasize that the type of competition of interest is not solely competition to provide the most comprehensive market data at the lowest possible price. Another purpose of the competitive process is to provide different types of investors with the degree of market data and price transparency that they most prefer.

In general, the Commission's "one-size-fits-all" approach to regulating the level of transparency and price of information may have unintended and potentially negative side-effects on the markets. In the case of dealer markets, stringent but poorly enforced transparency requirements contributed to the practice of dealers reporting trades out of sequence or delaying reporting.²⁴ Relatedly, concerns about revealing the size of their orders have also led institutions to avoid US markets and opt for the delayed reporting of the London markets.²⁵ This is because institutional traders normally conduct trades of large size, and they want to avoid the potential price impact that such a trade would generate if fully disclosed to the market as required by US regulation.

Finance research suggests that too much transparency may deter some forms of risk sharing by dealers, particularly those that engage in market making for particular stocks.²⁶ In addition, incentives to engage in price discovery may be compromised if regulations on prices generated in the trading process result in free-riding by competing exchanges or market participants. Allowing SROs to compete on both the price and form of information provision gives markets the ability to satisfy the demands of a variety of investors, whether they be retail or institutions that service middle-income pension plans. Further, regulation of transparency in the US appears to lead to strategic behavior by traders, in some cases driving business away from US markets, to less regulated markets. As technology makes offshore markets more accessible to US investors, it becomes even more vital that SROs and other US trading interests be allowed to compete.

Conclusion

It is doubtful that the Commission's proposed cost-of-service guidelines will improve investor welfare, and there are strong reasons to believe that the guidelines will make

²⁴David C. Porter and Daniel G. Weaver, "Post-trade Transparency on Nasdaq's National Market System" *Journal of Financial Economics*, 50 (1998) 231-252.

²⁵*Ibid.*, p. 232.

²⁶Ananth Madhavan, "Securities Prices and Market Transparency," *Journal of Financial Intermediation* 5(3), (July 1996), pp. 255-283, finds that increased market transparency may result in increased price volatility and lower market liquidity. Richard Lyons, "Optimal Transparency in a Dealer Market with an Application to Foreign Exchange," *Journal of Financial Intermediation* 5(3), (July 1996), pp. 225-254, investigates the effect of greater transparency on dealers' market making and finds that it lowers their willingness to engage in risk management, which leads to greater bid-ask spreads and lower dealer participation in the market. Narayan Naik, Anthony Neuberger and S. Viswanathan, "Trade Disclosure Regulation in Markets with Negotiated Trades," *Review of Financial Studies* 12(4), Special 1999, pp. 873-900, examine the transparency of public trades, noting that under some conditions, "prompt trade disclosure can actually reduce the welfare of the public investor." (p. 875).

investors worse off. To justify the guidelines, the Commission needs to surmount three hurdles:

1. Demonstrate that networks exercise market power in the sale of market data. While networks may possess a degree of market power, there are strong reasons to believe that they have limited ability to exercise it.
2. Demonstrate that cost-of-service regulation would improve things. Even if the networks exercise some market power, a degree of monopoly overcharge may be better than the perverse incentives created by cost-of-service regulation.
3. Demonstrate that cost-of-service regulation would produce better results than competition in information provision. This is an extremely tall order, and nearly impossible unless all forms of competition in information provision are impossible.

After considering all of these factors, we conclude that the Commission could better serve investors by soliciting comments on how to eliminate the government-created cartel in market data.

Appendix 1

RSP Checklist

SEC Concept Release on Market Data

Element	Commission Approach	RSP Comments
1. Has the Commission identified a significant market failure?	<p>A single network consolidates and reports market data for each security or other financial instrument. Monopoly networks might raise the price of market data above “competitive” levels, or they might set fees that discriminate against retail investors.</p> <p>Fair</p>	<p>The Commission has identified a potential cause of monopolistic behavior. However, it ignores the fact that the source of any monopoly is a combination of congressional and Commission actions that ensured each network would be the sole source of consolidated information for each security.</p>
2. Has the Commission identified an appropriate federal role?	<p>The SEC justifies the proposed cost-of-service guidelines under its authority to regulate the networks that consolidate and report market data, granted by the Securities and Exchange Act Amendments of 1975.</p> <p>Good</p>	<p>The Commission presents a convincing case that it has legal authority to implement its proposed guidelines. The vast majority of securities transactions are clearly interstate if not international in nature.</p>
3. Has the Commission identified alternative approaches?	<p>The Commission considers no alternatives to its proposed cost-of-service guidelines.</p> <p>Poor</p>	<p>The guidelines are likely an unstable compromise between regulation and markets. They invite complaints and litigation that will eventually pull the Commission down the road to full cost-of-service regulation. But the Commission considers neither full-fledged cost-of-service regulation nor strategies to promote competition in lieu of stricter regulation.</p>

<p>4. Does the Commission attempt to maximize net benefits?</p>	<p>The Commission offers no cost-benefit analysis. It assumes that a significant problem exists, even though market data fees for retail investors have fallen substantially in recent years.</p> <p>Poor</p>	<p>Given the recent reduction in fees, there is strong reason to believe that the costs of the guidelines would exceed their benefits even if networks have a degree of market power in the sale of market data.</p>
<p>5. Does the proposal have a strong scientific or technical basis?</p>	<p>Commission assumes that information consolidation and reporting must remain a monopoly. It also assumes that the proposed guidelines will solve the perceived problem while creating no perverse incentives or unintended consequences.</p> <p>Poor</p>	<p>The proposal ignores significant and well-known economic scholarship on the inefficiencies of cost-of-service regulation, the efficiencies of deregulation, and the empirical rarity of genuine natural monopoly.</p>
<p>6. Are distributional effects clearly understood?</p>	<p>Commission’s sole distributional concern is whether retail investors are subjected to unduly discriminatory market data fees.</p> <p>Fair</p>	<p>It is not clear that combating “discrimination” against retail investors is synonymous with protecting consumer welfare or broader notions of equity. The price structure that maximizes overall consumer welfare may entail greater price differentials among customers than the Commission is willing or able to permit. To the extent that lower-income individuals are more likely to invest through pension and mutual funds, the guidelines could have a regressive effect if they reallocate costs away from retail investors toward institutional investors.</p>
<p>7. Are individual choices and property impacts understood?</p>	<p>Commission assumes that market data must remain a common pool resource rather than property of the market venue that generates the data.</p> <p>Poor</p>	<p>Proposal fails to consider the inefficiencies associated with common pool ownership, or whether this ownership form might contribute to perceived problems.</p>