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IN REPLY REFER TO:

William F. Caton
FCC Secretary
Federal Communications Commission
1919 M Street, N.W.
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Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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Dear Mr. Caton:

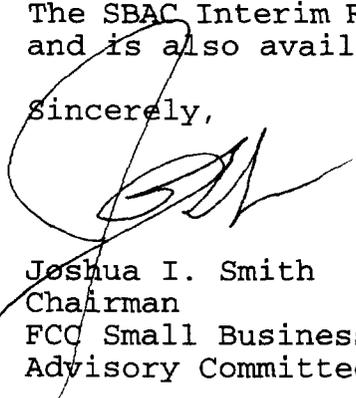
Attached is the FCC Small Business Advisory Committee (SBAC) Interim Report to the Commission. Please enter this document into the official record in docket #90-314 and all related PCS and emerging technologies Ex-Parte submissions.

The Charter and mission of the SBAC is spelled out under section (I) pages 1 through 5.

This report has also been filed with the FCC, PCS Task Force (April 22, 1994) in response to the April 11th and 12th, 1994 PCS Task Force panel discussions.

The SBAC Interim Report will be available to the public through ITS and is also available on Federal internet.

Sincerely,


Joshua I. Smith
Chairman
FCC Small Business
Advisory Committee

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Interim Report of the
Federal Communications Commission
Small Business Advisory Committee
for FY 1993

April 21, 1994 Edition

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EXECUTIVE SUMMARY

The Federal Communications Commission (FCC) chartered the Small Business Advisory Committee (SBAC) in 1992 to furnish advice to the agency on small business issues by reviewing existing rules and policies, recommending changes, and promoting opportunities for small and minority business in existing and new telecommunications services. The SBAC charter sets out specific reporting requirements to carry out this objective, including one interim report and one final report to the Commission summarizing the SBAC's actions and recommendations, and directs the Committee to review and analyze implications of FCC actions in various areas and develop recommendations on policies and rules. This report summarizes SBAC findings and recommendations resulting from five open meetings in which it solicited public testimony on various dockets related to broadcasting, multichannel video services, and emerging technologies.

Summary of Major Findings

Sections I and II of the report describe committee proceedings and outline the SBAC's conclusion upon review of FCC dockets on new and existing markets is that additional measures are needed to stimulate economic growth and access. The needs and demand for diverse ways to satisfy contemporary communications requirements is expanding rapidly, and many needs have not been adequately satisfied many non-dominant entities in new and existing industries contisfied. New entrants and other non-dominant market forces add substantial value to this increasingly stratified marketplace by encouraging innovation, employment, and contributions to global competitiveness. Ultimately, the presence of these market competitors in broadcast, emerging technologies and broadband video services, provides users with more freedom of access to communications service and better opporutnities for economic growth.

Section III reports industry feedback on FCC dockets indicating several structural restraints on non-dominant investment in the communications field. Many current market participants contend that current regulatory and market conditions inhibit their ability to respond to public needs and consumer demand. Analysis reveals that non-dominant entities do face several major impediments due to dysfunctional capital markets and adverse regulatory and administrative circumstances. These prior restraints on communications investment not only limit the economic opportunities of capital constrained non-dominant entities, they compound past allocational inequities and also increase the potential for undue concentration of ownership.

Section IV examines the jurisdictional basis for FCC measures to extend economic opportunities for consumers, non-dominant entities, and new entrants. The federal government has a long-standing dual

interest in small business development, and in encouraging spectrum use in the public interest through measures to attain larger use of radio. These Congressionally approved goals give the Commission leeway to promote economic opportunity, innovation and competition through policies that extend opportunities for license acquisition, strategic alliances, and contracting, to non-dominant entities, including businesses owned by minorities and women. The FCC also has discretion to establish designated entity classifications to implement national communications policy goals.

Section V presents an overview of regulatory flexibility options which the Commission could consider using to promote access and economic growth in new and existing communications industries. Multi-tier designated entity classifications, communications investment initiatives, spectrum use-diversity management techniques such as spectrum block set-asides, empowerment zones, and regulatory forbearance, are specific measures the Commission can use to encourage dissemination of licenses, strategic alliances, and vending opportunities, for designated entities.

Summary of Major Recommendations

In order to ensure the broadest possible diffusion of new services and technologies to the American people, the SBAC recommends that the Commission take steps to increase reliance on non-dominant market competitors and new entrants in the regulatory regimes for new and existing markets:

- o Adopt multi-tier designated entity classifications with provisions based on size, and non-dominant status of businesses owned by minority groups and women, for emerging technology services.
- o Relax capital constraints of non-dominant entities through a capital investment initiative consisting of measures addressing bank lending, equity capital, formation of a communications capital fund, attribution standards, and tax certificates.
- o Consider allocating spectrum for use by designated non-dominant to improve spectrum use-diversity management. In Broadband PCS, retain the licensing scheme with negotiated spectrum sharing provisions for aggregation with non-designated spectrum blocks.
- o Use an "information empowerment zone" approach in emerging technologies dockets to implement BTA service areas, geographical license partitioning, and waivers for designated entity size standards.
- o Exercise regulatory forbearance on competitive bidding, up-front auction fees, content restrictions, and rate regulations to ensure that designated entities have maximum flexibility to respond to market developments.

IMPLEMENTATION OF THE SBAC CHARTER

Establishment of the SBAC

The SBAC is the third in a series of advisory committees the FCC has chartered to examine ownership diversity issues. In 1978, the FCC chartered the Minority Ownership Task Force to examine broadcast ownership issues, and later in 1982, chartered the Advisory Committee on Alternative Financing Strategies for Minority Opportunities in Telecommunications. The scope of the SBAC's charter, in contrast, is significantly broader than past advisory committees in that it encompasses three different categories of small business, rural, minority and female businesses, in both new and existing markets. While non-dominant status in the field of communications is a common characteristic of businesses eligible for financial assistance from SBA chartered small business investment companies,¹ and businesses owned by minorities and women, the needs and capabilities of each of these communities present unique public interest issues that must be taken into consideration.

Federal Advisory Committee Act Compliance

The SBAC's charter is applicable to approximately 64 docketed proceedings involving new and existing markets in various stages

¹ SBIC financial assistance is available to firms with a net worth of \$6.0 million with average net income of not more than \$2.0 million. The SBAC understands that the SBA is revising its criteria to raise net worth levels to \$18 million and net income levels to \$6 million. See, SBAC PCS Report, at pp. 20-21.

that impact small business as of November 1992. Fifteen or more recognized industries under the FCC's primary regulatory jurisdiction come within the scope of these proceedings, and several others within the ancillary jurisdiction are also implicated. After consultations between the SBAC's Federal Designated officer, SBAC Legal Counsel, and the FCC's Acting General Counsel, the SBAC responded to this challenge by adopting plans for implementing the charter which assured compliance with the Federal Advisory Committee Act (FACA) and FCC rules on ex parte presentations. The planning process, SBAC docket review activities, and the SBAC's assessment of major policy implications are described below.

The major goals of FACA are to establish better controls of the advisory committee process and to open to public scrutiny the manner in which government agencies obtain advice from private individuals and groups.² Thus, FACA generally requires advisory committee meetings to be open to the public, and all records, reports and other documents generated by the advisory committee to be open to public inspection, (FACA, §§10(a), (b) 5 U.S.C. App.2), subject to the exceptions in the Government in the Sunshine Act (5 U.S.C. § 552 b(c)) and the Freedom of Information Act (5 U.S.C.

² See, e.g., Washington Legal Foundation v. American Bar Association Standing Committee on the Federal Judiciary, 648 F. Supp. 1353 (D.C.D.C. 1983).

§552(b)). FACA, case precedents and GSA regulations,³ however, do permit an advisory committee to use subsidiary task force groups.

Consistent with FACA's goals, the SBAC selected an implementation plan based on a regulatory negotiation model. Federal agencies use regulatory negotiation as an alternative to adversarial rulemaking processes by bringing together representatives of various interest groups to develop consensus on the terms of a proposed rule or rules before the rules are adopted. The most essential components of this process are steps to define the relevant problem or dispute; narrow the issues through analysis of positions and interests of the affected parties; identify and gather information that is necessary to attempt resolution of disputed issues; rank remedial priorities based on research findings; and formulate potentially acceptable solutions. This process is intended to foster creative activity by a broad spectrum of interested parties.

SBAC Quarterly Meetings

At the February 1993 meeting in San Francisco, the SBAC proceeded to implement its charter by adopting a plan to encourage public input through task force groups, fact-finding hearings, and submission docket reports in selected proceedings. The SBAC's

³ See, e.g., the GSA regulations implementing FACA which excludes from FACA coverage: meetings of two or more advisory committee or subcommittee members convened solely to gather information or conduct research for a chartered advisory committee, to analyze relevant issues and facts or to draft proposed position papers for deliberation by the advisory committee or a subcommittee of the advisory committee. 41 C.F.R. § 101-6.1004(k) (Emphasis added).

primary considerations in selecting dockets for review were the Commission's own need for assistance in resolving major economic issues and jurisdictional problems it presently faces, and expressions of interest the Committee received from affected parties. Ultimately, the SBAC selected new market dockets on PCS, and existing market dockets on broadcast ownership and finance, and cable rate regulation. These dockets were then discussed in public meetings held in May, September, and December 1993, in Washington, D.C. The SBAC PCS report, and this interim report, are based on these investigations.⁴

There are several common aspects of the issues related to entry by new providers in new and existing markets that the Commission will likely need to address. Are there unsatisfied demands or needs for new communications service which non-dominant market forces - including businesses owned by members of minority groups and women - can address with special expertise, capabilities, or micro-economic characteristics? Are there significant prior restraints on non-dominant investment, and utilization, that warrant consideration of measures to encourage investment by these entities? Is the legal authority to establish safeguards, and relax prior economic restraints on non-dominant investment, within the

⁴ The SBAC also adopted resolutions directing the SBAC staff to include recommendations in the interim report on measures to promote equal employment opportunity and ameliorate impediments to minority ownership.

scope of the FCC's regulatory jurisdiction? If so, how should the FCC go about assigning significant role to non-dominant market forces in the deployment and maintenance of national information infrastructure? The remainder of is report summarizes the assessments by the SBAC and its staff regarding these issues. It is our hope that our further findings and recommendations will continue to assist the Commission to proceed with other dockets on new and existing markets.

TELECOMMUNICATIONS ACCESS AND ECONOMIC GROWTH

In considering ways to promote the public interest in new and existing markets, the SBAC has focused extensively on the objectives of the Communications Act to "make available to all the people of the United States, so far as possible, a rapid, efficient, Nationwide, and worldwide wire and radio communications service with adequate facilities at reasonable charges," and to generally encourage "the 'larger and more effective use of radio.'"⁵ It is now widely recognized that in order to revitalize the domestic economy, and compete successfully in the new global communications order, America needs an advanced information infrastructure that will stimulate new services, technologies and products to link households, classrooms, and businesses, and expand access to information by placing electronic information resources at the disposal of the American people. The ideal market structure for this initiative would create new high-tech jobs, facilitate the transition from a defense-based economy to a peacetime economy, and provide new opportunities for economic stabilization and growth. Many benefits expected from the development of the information infrastructure will probably grow out of advances in spectrum-dependent wireless technologies. Rapid deployment of these advanced technologies, without commensurate efforts to promote the diffusion of spectrum use capabilities across economic and geographical lines, however, is unlikely to achieve intended productivity gains.

⁵
U.S., 319 U.S. 190, 216 (1943).

National Broadcasting Co., v.

In this section our report, we outline some of the reasons non-dominant market forces are well suited to accelerate diffusion of new services, products, and technologies for the benefit of the American people. Due to extended concentration of ownership in the field of communications, non-dominant status is attributable to all but a small universe of large entities that participate in FCC regulated industries. Chart #1 illustrates that over 95% of all firms in SIC Code 4812 radiotelephone industries have 1,500 employees or less, and on this basis qualify as non-dominant firms according to SBA size standards. Indiscriminate reliance on large scale market forces is unlikely to produce maximum gains in efficiency and productivity which are expected to accompany deployment of advanced information infrastructure.⁶

Communications Needs of the American Public

In the United States, no less so than in the global marketplace, access to low-cost services and equipment is a fundamental prerequisite for social and economic empowerment. For this reason, the development and deployment of new information technologies, services and products, accessible to users at reasonable cost, has enormous strategic importance for the American public. Information

⁶ "New FCC Chief Looks Beyond the Corporations," New York Times, December 6, 1993, at p. D6. As Chairman Reed E. Hundt recently, noted, "[t]here are thousands of buildings in this country, with millions of people in them who have no telephones, no cable television and no reasonable prospect of broadband services... They're called schools."

FIRM SALES IN SIC CODE 4812

| TYPE OF DATA | 1-4 | 5-9 | 10-19 | 20-49 | 50-99 | 100-249 | 250-499 | 500-999 | 1000-4999 | 5000-9999 | 10,000 & over | TOTAL |
|-----------------------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|----------------|------------------|
| NUMBER OF FIRMS | | | | | | | | | | | | |
| 1989 | 354 | 242 | 155 | 112 | 42 | 22 | 17 | 2 | 2 | 0 | 0 | 948 |
| 1991 | 395 | 240 | 170 | 100 | 44 | 24 | 9 | 4 | 3 | 1 | 0 | 990 |
| GAIN OR LOSS | +41 | -2 | +15 | -12 | +2 | +2 | -8 | +2 | +1 | +1 | -0 | +42 |
| AVERAGE SALES (\$000) | | | | | | | | | | | | |
| 1989 | 167 | 490 | 948 | 2539 | 6008 | 12013 | 23007 | 47550 | 213500 | 0 | 0 | 2174 |
| 1991 | 179 | 514 | 1098 | 2804 | 6082 | 12391 | 21839 | 102845 | 79313 | 1037452 | 0 | 3245 |
| GAIN OR LOSS | +12 | +24 | +150 | +265 | +74 | +378 | -1168 | +55295 | -134187 | +1037452 | 0 | +1071 |
| SHARE OF TOTAL SALES (%) | | | | | | | | | | | | |
| 1989 (CUMULATIVE SHARES) | 3.1 (3.1) | 5.5 (8.6) | 6.8 (15.5) | 12.3 (27.8) | 11.8 (39.6) | 12.9 (52.5) | 18.1 (70.6) | 5.4 (76.0) | 24.0 (100.0) | 0.0 (100.0) | 0.0 (100.0) | 100.0 (100.0) |
| 1991 (CUMULATIVE SHARES) | 2.4 (2.4) | 3.9 (6.4) | 5.3 (11.6) | 7.5 (19.1) | 7.7 (26.8) | 8.3 (35.1) | 5.4 (40.5) | 14.5 (55.0) | 8.4 (63.4) | 36.6 (100.0) | 0.0 (100.0) | 100.0 (100.0) |
| GAIN OR LOSS | -.7 | -1.6 | -1.5 | -4.8 | -4.1 | -4.6 | -12.7 | +9.1 | -15.6 | +36.6 | -100 | -100 |

is one of the nation's most critical economic resources.⁷ Despite great strides in the field of telecommunications during the 20th century, many Americans are non-users of modern telecommunications technology. For the segment of the American public that depends mainly on broadcasting, but cannot gain access to, plain old telephone service, mobile communications services, or multichannel video services, universal service remains an unfulfilled promise. In addition, inferior telecommunications infrastructure is a major economic handicap for captive small business and residential consumers. The emergence of a "bi-modal" market structure, made up of non-users and captive business and residential consumers, has profound significance for the national information infrastructure objectives in general, and universal access objectives, in particular.

At a time when the pace of technological innovation is increasing at an amazing rate, it is easy to overlook the communications needs of populations that inhabit economically distressed communities in urban and rural areas. Only 20 to 30 percent of U.S. rural households have telephone service. Similarly, "[j]ust 81 percent of African American and Hispanic households have telephone service," compared to 91 percent of all U.S. households.⁸ In mobile communications, according to 1990 data, there are only about 5.3 million cellular telephone subscribers and 2 million

⁷ NII, p. 5.

⁸ Nolan Bowie, "Equity and Access to Information Technology" in The Annual Review, Institute for Information Studies, 1990, p. 143.

paging service subscribers out of a total estimated market of 96 million.⁹ Finally, 40% of the nation's households do not subscribe to cable television. Graph A shows significant disparities in telephone penetration rates in various economically depressed areas in New York city. Whereas 92.7% of all households have phones, only 74.8% have telephone in disadvantaged communities.

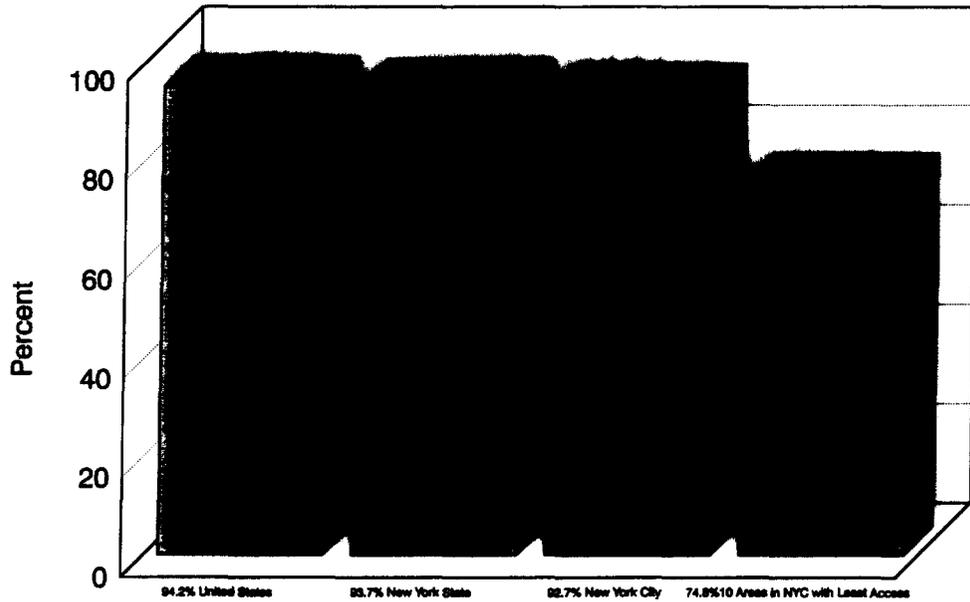
Although market surveys indicate "considerable demand for [PCS] services priced at \$30 to \$40 per month, with demand decreasing sharply as the price increases above \$40 per month," price will have a "significant effect on residential demand."¹⁰ Whereas forty percent of households surveyed by A.D. Little were likely to subscribe to PCS, based on a \$10 per month service charge and equipment costs of \$100, only fourteen percent of all households surveyed were interested in subscribing when service cost increased to \$40 per month and with equipment costs of \$250.¹¹ In view of a possible disfranchisement of as much as 24% of the consumer market based on a price variance of only \$30 dollars - figures that do not even reflect cost constraints of households that were not included in the survey - inelasticity of demand must be considered as a factor which reduces the likelihood that the

⁹ "Communications and Minority Enterprise," Report of the 1990 FCC-NTIA Conference (1990), at p. 9 ("Conference Report").

¹⁰ Hon. Andrew Barrett and Byron Marchant, "Emerging Technologies and Personal Communications Services: Regulatory Issues," CommLaw Conspectus, Vol 1, 1993, at p. 5, 6.

¹¹ Rowland Martin, "Survey of New Communications Technologies," paper prepared for "Fast Starts in New Communications Technologies" Conference, New York Law School, November 14, 1991, at p. 3.

Selected Telephone Penetration Rates



Source: New York City Office of Telecommunications

intended policy goals of improving access to information services will be accomplished. Price differentials are especially likely because market research has not entirely established what type of PCS services consumers will really want, especially where geographical isolation and economic distress reduce opportunities for dominant competitors to achieve profit-maximizing economies of scale.

Small business users have also complained about diseconomic service and rate structures. Business and professional services, for example, often have specialized communications requirements that are not attractive to dominant competitors. Specialized tariffs to encourage telecommuting, it has been suggested, could simultaneously increase productivity, cut traffic congestion, reduce air pollution, and accelerate technological innovation.¹² As we noted in our first report, however, there are several structural barriers to small business access to telecommunications infrastructure, such as anachronistic restrictions on technology transfers subsidies and tariffs for infrastructure sharing and use, which tend to discourage these types of economy-wide innovations.¹³

¹² See, Michael Schrage, "Telecommuting Tariffs Needed to Promote Working From Home," Washington Post, December 12, 1993, at p. G3. Schrage argues that with creativity, BOCs and PUCs could encourage tariff reforms that make it easier for local business to invest in cost-effective telecommuting. The article cites Professor Eli Noam of Columbia University for the proposition that telecommuting tariffs could stimulate use of the underutilized residential part of the network and help balance total network efficiency.

¹³ Steve Gorosh, "Small Business, Telecommunications, and Economic Development: The Need to Lift Regulatory Restrictions on the Sharing and Use of Telecommunications Services," California

Access to information and media services is also an area of grave concern for many communities. Some have argued that regulatory intervention to encourage diversity of control is no longer necessary because spectrum is not scarce and there are many new media technologies and programming available. This argument can be taken to extremes, however, that overlook several fundamental economic realities. It is true that innovation and technological advances have increased the range of information and entertainment commodities available to consumers. One might also argue that spectrum is less scarce than exhaustible resources like timber or coal. First, "[t]he requirements of capital, expertise and organization ... critically limit the number and diversity of voices permitted in the [television] marketplace. [W]hile newer technologies such as cable and the VCR have substantially increased the array of commodity units available, the absolute number [of independently owned video voices] has actually diminished."¹⁴

Coinciding with trends toward concentration of ownership, there has also been an increase in reports of "hate speech" transmitted over electronic media. Among other things, these reports indicate that lack of access to counterprogramming opportunities place minority communities at a substantial competitive disadvantage in the marketplace of ideas.¹⁵ For these

Western Law Review, Vol. 29, No. 2 (1993), p. 399.

¹⁴ Devine, *supra*.

¹⁵ See, Purvis, Robert, Bigotry and Cable TV, National Institute Against Prejudice and Violence, Institute report No. 3, April 1988; Electronic Hate: Bigotry Comes to TV, Anti-Defamation

reasons, structural regulation of ownership and employment continue to provide important policy alternatives to mandatory access requirements and group defamation statutes.

Due to the bi-modalization of telecommunications consumption, implementation of competitive bidding may have have major "hidden cost" implications for the implementation of universal access objectives. Auction critics have argued that auctioning licenses will increase costs and tend to inhibit the production of information goods and services to the detriment of the public. The NTIA Report described comments reflecting the view that "auctions are 'a hidden tax that would likely increase prices for spectrum dependent services.'"¹⁶ Similarly, in a summary of arguments for and against auctions, the Congressional Budget Office (CBO) notes the related concern that if the government were to pursue a strategy that maximized auction revenues, it may tend to tolerate rent-seeking behavior so that it could share in them when auctioning new assignments. In addition, as the CBO observed, "[i]f auction revenues are pursued to the exclusion of other social benefits, the long-term efficient use of spectrum could be sacrificed for short term increases in federal revenues."¹⁷

Against this background of an increasingly bi-modalized communications service economy, the SBAC finds continuing validity

League, 1991.

¹⁶ NTIA Report, at p. 109, citing comments by Southwestern Bell.

¹⁷ Congressional Budget Office, "Auctioning Radio Spectrum Licenses," (1992), p. 20, 21.

in the Commission's historical view that utilization of non-dominant entities is an efficient regulatory tool for increase consumer welfare and freedom of access to communications services. To promote universal access objectives, and avoid potential hidden cost problems in the context of spectrum auctions, it will be important for policy deliberations to take a number of relevant microeconomic factors into consideration.

Supply-side Microeconomics and the Public Interest

Measures to promote large economies of scale and scope have been prominent among the regulatory tools the Commission has used to promote the public interest in recent years. According to conventional wisdom, large firms assumed to be innovative leaders because of certain assumptions concerning the relationship between size, market power, and research and development activity. One reason for this assumption is that in large firms, the fixed costs of R&D can be spread over more units, and market power allows such companies to price new products to recover their development cost. Traditionally these considerations have caused concerns that measures to encourage new entry would be accompanied by opportunity costs such as the diminution of scale economies, creamskimming, inefficiently small service areas, and delayed deployment of advanced telecommunications services.¹⁸ Recent trends indicate that these concerns are increasingly unwarranted, especially in the

¹⁸ See, *Specialized Common Carrier Services*, 29 FCC 2d 879 (1971).

context of bi-modal or assymetrical telecommunications market structures.¹⁹

The Commission itself has recognized that participation of non-dominant competitors is an increasingly valuable component of the telecommunications economy. Economies of scale may operate at the expense of economies of specialization which large firms must forego in order to capture the benefits of centralization and standardization of service delivery. Participation by dominant firms sometimes involve anti-competitive externalities.²⁰ Also, the sheer size, financing requirements, and market power of many telecommunications conglomerates makes dominant firms slower to perceive, and respond to, demand for specialized market requirements and technological innovation.

Recent research also indicates, moreover, that as progressively larger vertically and horizontally integrated companies begin targeting national or international markets, a proliferation of much smaller firms are left serving narrower

¹⁹ Petition for Further Rulemaking of Advanced MobileComm Technologies, Inc. and Digital Spread Spectrum Technologies, Inc., (August 25, 1993), Exhibit 3, p. 11.

²⁰ For example, it has been stated that the concentration of ownership among vertically and horizontally integrated firms in certain markets for information services render anti-competitive acts more damaging to competitors - especially non-dominant competitors - and also insulates integrated entities from correction by market forces. Moreover, since the financial, technological, manufacturing, and marketing resources available to integrated entities often dwarfs resources available to non-dominant competitors, the mere presence of such entities in emerging information service markets could tend to deter potential competitors from entering those markets. See, U.S. v AT&T, 552 F. Supp. 131, 182 (D.C.D.C. 1983).

'niche' markets that cannot be easily or profitably served by giant multinational [telecommunications] corporations."²¹ In this context, the benefits of non-dominant market forces previously observed by the Commission are highly relevant. One major benefit of reliance on non-dominant market forces is the dispersion of burdens, risks, and initiatives involved in supplying the rapidly growing markets for new and specialized services among a broad base of entrepreneurial entities. Typically, non-dominant entities are attracted by the opportunities to participate in the expansion of existing markets or development of completely new markets and have historically been ready, willing, and able, to compete and innovate for the benefit of consumers .

Microeconomic considerations also indicate that operational variables relating to firm size and geographical location have major implications for spectrum use and the availability of communications and information services. For example, economists recognize that a licensee with low fixed costs and high marginal costs may contribute less to consumer total welfare, than one with higher fixed costs and lower marginal costs. Thus, while in other instances a firm's profits may be many times greater than that associated increase in surplus due to asymmetries of cost and market information, "a new licensee may be able to capture only a small proportion of the total surplus it generates."²² It is not

²¹ Conference Report, at p. 11, 12.

²² Borenstein, *supra*, at p. 369.

uncommon for consumers and dominant entities alike to benefit from the uncaptured surplus generated by non-dominant firms.

Non-dominant entrepreneurs often voluntarily engage in marginal "consumption behavior" by investing in programming and other expenditures that do not achieve maximum increase in economies of scale or profits. Non-dominant media entrepreneurs may possess advantages in market information, or in monitoring performance by managers and other agents, which permit the entrepreneur to break-even under circumstances that other pursuing licenses might find too risky.²³ In service categories where these advantages of small economies of scale are relevant, primary reliance on large market forces is unlikely in general to assure that optimal efficiency in spectrum use is achieved.²⁴

Although non-dominant firms start out small, many that successfully aggregate low-volume demand, or offer price competition, grow to achieve considerable economies of scale. Small capitalization stocks have contributed substantially to gains in NASDAQ trading in recent years,²⁵ and some assert that from 1990 to 1993, NASDAQ outperformed other exchanges dominated by Fortune 500

²³ Spitzer, *supra*.

²⁴ For an extensive discussion on this point, see Severin Borenstein, "On the Efficiency of Competitive Markets for Operating Licenses," *The Quarterly Journal of Economics*, May 1988; see also, W.H. Melody, "Radio Spectrum Allocation: Role of the market," *American Economic Review*, May 1980, pp. 393-397.

²⁵ Wyatt, Edward, A. "High tech Ascendant: telecom and Semiconductor shares led pack in third quarter," *Barron's*, October 4, 1993, p. 118.

companies.²⁶ The Securities and Exchange Commission's (SEC) recent rule changes which aim to maintain liquid markets for small and medium sized companies should further enhance liquidity of publicly traded high-tech stocks. Investor sentiment toward telecommunications is also positive. Interest in high-tech stocks lies in the assumption that technology gives small companies in other fields a competitive edge by making it possible to stay small and flexible, and respond quickly to changing market conditions.²⁷ Historical trading patterns also reflect favorably on the viability of small capitalization stock offerings by non-dominant telecommunications entities. In the past, public companies too small to meet New York Stock Exchange (NYSE) or American Exchange (AMEX) trading requirements sold stock offerings over the counter until they could move up. But as communications technology has become more widely available, many companies are staying with NASDAQ. U.S. success with small capitalization stock has spawned global interest in incubating small companies.²⁸

Diffusion Capabilities of Small-Scale Market Forces

²⁶ Mullins, "Small is Big," Institutional Investor, July 1993, p. 11-12.

²⁷ Mamis, et al, "The Inc. 100: Small Is, finally, Beautiful," INC Magazine, May 1992.

²⁸ See, "Britain's Small Firms: Unloved Toddlers," Economist, March 6, 1993, p. 82; Kahn, Sharon "Where Small Caps are Hot," Global Finance, June 1991, p. 36-39 (Japan firms); and Smith, Charles, "Small Guys, Big Time: Japan's OTC Enjoys Active Trading, Stronger Share Prices," far Eastern Economic Review, March 1, 1990, p. 40-41.