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# Telecommunications and the Competitive Advantage of Massachusetts

Governor William F. Weld [\\*](#)

## I. Introduction

The Commonwealth of Massachusetts has a strong interest in resolution of the challenges facing communications policymakers. In comparison with most other states or the nation as a whole, the significance of telecommunications to Massachusetts is enormous. Our economy is based on information-intensive industries such as financial services, medical care, technology, and education. As the telecommunications industry undergoes a fundamental and welcome transformation from monopoly to competitive markets, the challenge of communications policymaking is to encourage the deployment of advanced infrastructure for the benefit of all citizens as control of pricing shifts from government to the competitive marketplace.

State governments should regulate in a manner consistent with the goal of fostering effective competition in all telecommunications markets. Competitive markets will improve the economic efficiency of the industry and ensure development of sophisticated networks that are cost-effective and responsive to customer demand. Moreover, the development of competitive markets will allow government to reduce its traditional role of overseeing the telecommunications industry and regulating its prices. In addition to the goal of full competition in telecommunications, we must retain the goal of universal service. However, federal and state policymakers, working together, must develop methods for achieving universal service that can coexist with competitive markets.

## II. The Importance of Telecommunications to Massachusetts

It would be difficult to overstate the importance of the telecommunications industry to the economic well-being of Massachusetts. Telecom-munications networks will be as important to Massachusetts in the coming years as roads, bridges, railroads, canals, and harbors were to Massachusetts when our economy was dominated by basic manufacturing industries such as textiles and leather.

In his 1991 study *The Competitive Advantage of Massachusetts*, Harvard Business School Professor Michael Porter outlined four important clusters of interrelated industries in which Massachusetts has a competitive advantage over other states and nations:

*Health Care:* Hospitals, medical laboratories, physicians' offices, nursing facilities, medical instruments manufacturing, biomedical technology, medical research, and pharmaceuticals.

*Knowledge Creation Services:* Research and development laboratories, educational institutions, basic research institutions, think tanks, engineering firms, consulting firms, legal firms, and printing and publishing companies.

*Financial Services:* Banking, venture capital, asset management, insurance, and real estate.

*Information Technology:* Computer and peripheral manufacturing, software development, information technology professional services, information retrieval services, telecommunications, precision instrument manufacturing, and electronic components manufacturing. [\(note 1\)](#)

These four industries trade primarily in information-products that do not require transportation, but do require reliable and sophisticated telecommunications networks. Success in each of these industries depends on the creation,

dissemination, and analysis of knowledge, and this process is becoming increasingly reliant on sophisticated telecommunications networks, capable of rapid transmission of large amounts of data. The transmission of X-rays from one hospital to another, the ability of a professor at one college to conduct a seminar for students at several colleges, the transmission of financial data from a start-up company to a venture capitalist, and the sharing of research on new software programs between engineers at different company locations all depend on telecommunications. If telecommunications networks in Massachusetts are not comparable-or even superior-to networks in other states and countries, the competitive advantage in these four key industries will be at risk.

In addition to its telecommunications infrastructure, Massachusetts has the highest concentration of telecommunications manufacturing employment in the country.[\(note 2\)](#) This concentration of expertise will help Massachusetts telecommunications companies capitalize on burgeoning worldwide demand for sophisticated telecommunications networks.

Government policies for the telecommunications industry will be a significant factor in determining whether Massachusetts reaps the benefit of its competitive advantage in information-based industries, such as those identified by Dr. Porter. It is therefore crucial that we successfully address the current challenges of communications policymaking, and foremost among these challenges is the transition from a monopoly environment to competitive markets.

### **III. Transition to a Competitive Environment**

#### **A. Advantages of Competitive Markets**

As Congress considers changes to the Communications Act of 1934 and states adopt new regulatory policies, we should focus on the goal of opening all telecommunications markets to effective competition. Competitive markets will increase the industry's economic efficiency, provide more choices for consumers, and encourage innovative development of new telecommunications services. Subsequent to the divestiture of AT&T in 1984, Massachusetts utility regulators were among the first state regulators to determine that promoting competition in telecommunications markets is the optimal way to achieve public policy goals for the industry.[\(note 3\)](#) Our regulators have allowed competition in all communications markets, approved interconnection and collocation arrangements between competing network providers, enhanced NYNEX's ability to compete by rebalancing its rates, and reduced regulatory barriers to market entry. This favorable regulatory climate, coupled with significant demand for sophisticated telecommunications services, makes Massachusetts one of the most competitive environments in the country for telecommunications. Dial tone is available from a multiplicity of vendors in many of our commercial centers.

Studies suggest that competitive telecommunications markets offer significant benefits to the national economy. For example, a 1993 Brookings Institution study estimated that limited deregulation in the telecommunications industry has already resulted in benefits of as much as \$0.7 to \$1.6 billion nationally.[\(note 4\)](#) That study also estimated that potential economic gains from additional deregulation of the telecommunications industry could be as high as \$11.8 billion, an amount greater than the combined benefits that would result from additional deregulation of airlines, railways, road freight, cable television, stock-brokering, and natural gas.

#### **B. Infrastructure Development**

Telecommunications networks will be the transport media for the industries that provide Massachusetts with a competitive advantage. However, unlike transport infrastructure such as roads and bridges, telecommunications infrastructure does not necessarily require government funding. Nor is it necessary for government to determine which technologies are best, how fast investment should be made, or what geographic areas should be targeted for investment. For the development of an information superhighway that will serve customers' needs in the most efficient and cost-effective manner, the best incentive that government can provide is to ensure competition and free markets.

Because telecommunications networks can spur economic development, some who believe that demand will not develop until infrastructure is in place argue that government should take a more active role in funding or determining the proper level of telecommunications network investment. This is the "Field of Dreams" approach to telecommunications network development: "If you build the network, customer demand will come." But customer demand in Massachusetts, in the form of key industries that require sophisticated telecommunications networks, is already in place. Thus, policymakers in Massachusetts have no need to actively manage network development to create demand for services, the demand is already here. As long as policymakers in Massachusetts continue to ensure effective competition, private telecommunications companies, secure in the knowledge that they will be allowed to freely compete for these customers, will build networks to satisfy demand in the most efficient and responsive manner.

Similarly, policymakers in other states and in the federal government have come to the realization that competition will encourage development of the information superhighway in the most efficient manner. Even Japan's Ministry of International Trade and Industry, which has been the primary practitioner of government industrial policy, is now trying to get its government out of the way of private enterprise in constructing Japan's fiber-optic network.[\(note 5\)](#) The Japanese are beginning to understand that network modernization will benefit from what Austrian economist Joseph Schumpeter referred to as the "creative destruction" of the marketplace, more than it will from bureaucratic micro-managing and fine-tuning. Centralized command and control structures simply will not be as effective as decentralized market forces in developing the telecommunications network of the future.

## **C. Universal Service**

Although development of competitive markets in telecommunications will improve economic efficiency and responsiveness to customer demand, it will impede policymakers' efforts to achieve universal service through the use of telecommunications rate regulation. Hence, an additional challenge for communications policymakers will be to develop new ways to achieve or maintain universal service in a competitive environment.

Universal service has been an important goal of policymakers since passage of the Communications Act. We have been particularly sensitive to this issue in Massachusetts, and, we are one of the country's leaders in household penetration of telephone service.[\(note 6\)](#) Throughout the country, policymakers currently use a variety of techniques to ensure that basic telephone service remains affordable. Most of these techniques involve cross-subsidies between classes of consumers. However, cross-subsidies can only be enforced in a heavily regulated environment, predicated on the existence of an industry monopoly. If universal service is to remain a policy goal, as it should, new methods to achieve universal service that work in harmony with competition must be developed. These new methods must not disproportionately burden some network providers while giving others a competitive advantage. Effective competition will occur only when the responsibility for universal service is distributed equitably among all network providers.

## **IV. Conclusion**

Competition is already present to some degree in most telecommunications markets in this country, and the Commonwealth of Massachusetts welcomes competitive markets as the best way to achieve our policy goals for the industry. The presence of significant demand for advanced telecommunications services, coupled with a favorable regulatory climate, serve to create an environment in Massachusetts where consumers and efficient service providers will benefit from increasing competition. Deployment of advanced telecommunications infrastructure will contribute to Massachusetts's ability to maintain and extend its competitive advantage in knowledge-based industries.

Changes to the Communications Act and state regulatory policies should focus on the promotion of free markets for telecommunications. While we must also continue to pursue the goal of universal service, policymakers must develop new methods of achieving universal service that will not impede the development of free markets in telecommunications. Free markets in which firms are disciplined primarily by market forces and not by government regulation will serve to increase economic efficiency and responsiveness to customer demand. Given the importance of the telecommunications industry to the health of our economy, we should entrust its development not to politicians and bureaucrats, but to entrepreneurs and the marketplace.

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## Notes

\*The Author was elected as Governor of Massachusetts in 1990, and was elected to a second term in 1994. J.D. *cum laude* Harvard University Law School, 1970; B.A. *summa cum laude* Harvard College, 1966. A year later, the Author received a diploma in economics and political science, with distinction, from Oxford University.

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1. Michael Porter, The Competitive Advantage of Massachusetts 15-18 (Monitor Co. Inc. and Harvard Business School (1991)). [Return to text](#)
2. 1992 Report of the Governor's Council on Economic Growth and Technology, Committee on Telecommunications Development 1. According to the report, the Massachusetts telecommunications industry employs over 75,000 people, accounting for approximately 17% of high technology manufacturing jobs in Massachusetts. *Id.* [Return to text](#)
3. The Massachusetts Department of Public Utilities stated, "[W]e conclude that there are benefits inherent in a competitive marketplace that encourage greater levels of economic efficiency and fairness than does a regulated monopoly environment. These benefits have the clear potential of encouraging the development of a more efficient and modern telecommunications network in Massachusetts." *IntraLATA Competition*, 1731 Mass. Dep't Pub. Util. 26 (1985). [Return to text](#)
4. *Heavens! Deregulation Works*, Economist, Nov. 6, 1993, at 96, 96 (citing Clifford Winston, *Economic Deregulation: Days of Reckoning for Microeconomists*, 31 J. Econ. Literature 1263, 1284 (1993)). [Return to text](#)
5. David P. Hamilton, *Big Fiber-Optic Project is Private Sector's Job, Japan's Reformers Say*, Wall St. J., Aug. 15, 1994, at A1. [Return to text](#)
6. Data compiled from the 1990 Census place Massachusetts first in the nation, with telephone service in 97.9% of households. United States Bureau of the Census, Statistical Brief No. 94-16 (1994). The Federal Communications Commission places Massachusetts third in the nation, with telephone service in 96.2% of households. FCC, Telephone Subscribership in the United States (Mar. 17, 1994). [Return to text](#)