Chapter 5

The significance of Telecom 2000

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American communications policy, traditionally the prerogative of a small number of Washington, DC-based authorities, became more central to public policy debate in the early 1980s, for three reasons. First, the Bell System breakup, announced in January 1982 and implemented two years later, impressed on the public the fact that communications policy really matters. For the first time, most people were compelled to make choices about a utility service that previously had been taken for granted. Some $148 billion in net current assets and over 1 per cent of the United States civilian workforce was reorganized pursuant to a court order. In 1984, the first year following AT&T's divestiture of nearly three-quarters of its assets, serious long-distance service fulfillment problems arose. The transaction had traumatic effects, chiefly for the former Bell System workers, but also for much of the public. The predictable consequences of decisions reached by a small number of government officials were visited on the general public, and that in turn sparked greater interest in communications policy.

The second reason that communications policy came into public scrutiny is that the Bell System breakup coincided with a fundamental overhauling of long-established telephone industry pricing and cost-allocation schemes. The Federal Communications Commission (FCC), in its *Access Charges* action and related decisions sought to reduce greatly the cross-subsidy burdens previously placed on long-distance services – or, more accurately, the users of long-distance services – by shifting those burdens to local telephone subscribers, denominated as the 'cost causers.' As in most other countries, the United States previously had followed the practice of generously assigning telephone plant and operating costs to toll services. The purpose was to achieve subsidies of local prices, especially for politically sensitive local

residential services. An effect was that long-distance prices artificially ballooned and local charges were shoved well below so-called 'true costs.' Perhaps because one of the FCC's principal constituencies was comprised of large users of overpriced long-distance services, but also for sincere 'pro-efficiency' purposes, a regime of 'customer access-line' (later renamed 'end user') charges was instituted. At the same time, divested Bell operating companies were seeking large local price increases. This major change in pricing and subsidy allocation policies, plus industry proposals for much higher local service charges, disturbed many citizens, state regulators, and members of Congress. The effect was to impress upon the general public the reality that telecommunications policy really matters.

The third aspect of communications policy that drew public notice was the matter of growing trade deficits and apparent loss of competitiveness in telecommunications or, more broadly, the 'information economy.' Throughout the late 1970s and early 1980s, as major, labor-intensive industries – textiles, footwear, steel, and automobiles – came under severe import pressures, the American political leadership responded chiefly by stressing the redemption of a high technology tomorrow. 'Information' and 'knowledge-intensive' enterprises were to be the key. Convenient economic rationales including the 'law of comparative advantage' gained new prominence. Again coincident with the disruptions and public dismay engendered by the Bell System breakup and the FCC's pricing changes, however, escalating trade deficits arose in precisely those high-technology sectors that were supposed to be the country's economic salvation. American jobs were 'out-sourced,' and alternative, high-technology opportunities did not quickly materialize. The public learned, as one critic commented wryly, that 'we can't all be astronauts.' One immediate consequence was to pay increased attention to overseas communications policies, and especially market access conditions. For a majority of Americans and American politicians assumed that if the country was losing the battle for worldwide technology and commercial hegemony, it could only be because other countries' trade policies and practices were unfair.

Against this background, in October 1988 the National Telecommunications and Information Administration (NTIA) released its *NTIA Telecom 2000* report. Some 672 pages in length and consisting of two parts - first, a broad overview of communications and, second, seventeen sector studies covering everything from consumer electronics to program production and movies - the report purported to establish the policies the United States government should pursue, and the programs

it and the private sector should implement, to ensure that national economic, government, and social needs will be met in the year 2000 and beyond.

The idea of publishing such a *magnum opus* on communications had arisen a year earlier, in conjunction with the planned revision of a 1985 report entitled *NTIA Competition Benefits Report.* That document, comparable in many respects to the second part of the *NTIA Telecom 2000* report, had been prepared on the eve of a series of NTIA-led European 'market access and fact-finding' (MAFF) talks aimed at expanding communications equipment, services, and related exports. The assumption in 1985 had been that, given the public dismay regarding deregulation then prevailing in the United States, European politicians (and, to some extent, Japanese authorities as well) would be even less willing to embrace the kind of market-opening regulatory reform proposals United States companies were seeking, unless there were a modest policy backfire demonstrating that, press reports to the contrary notwithstanding, in American communications, all was not lost.

The *NTIA Competition Benefits Report* proved something of a minor best-seller, especially abroad, with a total of about 9,000 copies distributed. Its overriding message might be labeled the 'technological imperative.' That is, through adroit manipulation of data, coupled with a candor unusual for government documents, the report showed that the government had resisted most of the pro-competitive market developments driven by technological, commercial, and demographic changes in the 1970s, yet had proven unable to staunch the flow. It preached the message that, sooner or later – and probably sooner – foreign administrations would confront precisely the same disruptive pressures in communications, and that the more prudent course was to accommodate change now, rather than attempt to mount what would inevitably prove an unsuccessful effort to maintain the status quo.

Because the 1985 report had been tied closely to specific communications and information industry sector developments, and had focused on economic matters, it commanded little popular readership. In 1987, however, the decision was made to see if a publication endeavoring to relate communications developments and objectives to a broad range of national issues – education, health care delivery, rural development, and the like – could be prepared: in effect, a document aimed at popularizing telecommunications policy.

Comprehensive federal communications policy reviews are not new. Historically, they have occurred about every twenty years this century.

The first such significant report was issued in 1912 following the *Titanic* disaster. A factor that contributed to the magnitude of that tragedy, which cost 1513 lives, was the *Titanic*'s inability to summon help as other ships in the area had their radios turned off. As the official Department of Commerce history notes, 'The disaster caused Congress to strengthen legislation requiring passenger steamers to have radio apparatus. It also alerted Congress to the imminent importance of wireless communications.'

Some twenty years thereafter, the US House of Representatives' Committee on Interstate and Foreign Commerce commissioned a special review of communications policy. That effort, conducted under the leadership of a government communications expert, William Splawn, produced the Splawn Report which, in turn, was in large part the basis for the Communications Act of 1934.

Twenty years later, the Truman Administration commissioned its own review of communications policies. That effort concentrated on two matters: overall radio frequency management and government communications policymaking organization. It concluded that the United States had to do a better job managing use of the radio spectrum; it also recommended elevating communications policymaking responsibilities (and helped to bring about the position of Special Assistant to the President for Telecommunications, which was to evolve eventually into the Office of Telecommunications Policy in the Executive Office of the President under President Nixon).

Twenty years after the Truman effort, there was yet another comprehensive review of telecommunications policy. Under-Secretary of State Eugene Rostow headed the study for the Johnson Administration. The Rostow Task Force report was important as it institutionalized and legitimized competition in communications markets. It also advanced proposals – the so-called 'open skies' policy favoring free entry into domestic communications satellite services, for example – that were implemented by the FCC in the early 1970s.

Executive Order 12046, which established NTIA, directs the agency to make recommendations regarding long-run trends affecting the country's communications economy and the national welfare. To meet that responsibility, NTIA in 1987 undertook to develop a long-range communications policy planning report. An array of special staff studies of individual telecommunications and information markets and issues was commissioned, and extensive discussions with business, government, academic, and other experts were held. Many of the recommendations contained in the *NTIA Telecom 2000* report should be familiar.

First, the report stresses the virtues of limited government, and maximum possible reliance on competitive private enterprise. Second, it emphasizes the importance of maximum possible individual freedom and choice. In our domestic communications and information services markets, the report urges continued reliance on competition to the maximum extent possible. With respect to the US government, the message continues to be that less is more.

Other parts of the report go beyond the narrow focus of previous telecommunications policy reports. For instance, *NTIA Telecom 2000* reviews the problems of simply transferring pro-competitive, deregulatory United States policies from the domestic to the international communications arena.

On the domestic side, deregulation usually leads to a marketplace solution. Some argue that the resulting market may be insufficiently competitive, and that competition cannot be counted on to function as an adequate surrogate for what regulation might accomplish. But domestic deregulation usually does result in a dispersion of decisionmaking authority. Instead of having five members of the FCC in Washington making most of the decisions, many more people in the private sector make the judgments.

That does not always happen internationally, however, when the United States tries to deregulate unilaterally. Internationally, deregulation can result in simply strengthening the hand of foreign, government-sanctioned monopolies. Instead of a marketplace decision, one runs the risk of a decision being made by another government entity or group of entities – namely, foreign communications administrations. Consequently, the *NTIA Telecom 2000* report reviews the limitations on deregulatory policies resulting from the fact that, although America's is a competitive, largely market-driven communications economy, most of the rest of the world's is not.

Another aspect of the report that is distinctive is the scope of the analysis. Most previous reviews of communications policy have been rather narrow. What they have said is, 'Do thus and such, and you will affect the following communications sectors in these ways.' What *NTIA Telecom 2000* says, however, is, 'Do this or don't do this and you'll affect telecommunications, and you'll also probably affect the following additional things.' It demonstrates how communications policy choices will affect a broad range of other things such as educational opportunities, the competitiveness of American industry, population distribution and rural opportunities, and the quality of national life. This broader assessment reflects the deep involvement of communications and

information services throughout the American economy and society – something which is shown in the statistics that are included in the report.

Communications and information services, as a percentage of the Gross National Product (GNP), have roughly doubled to about 6 percent in the last twenty years. The pace is accelerating. Recently, we are seeing an annual increase of over a half percent of GNP – a tremendous amount of new economic activity given America's nearly $5 trillion economy.

Twenty years ago, a communications policymaker could look out and say that there was a high probability that a decision would have a major effect on the communications market; there was only some vague notion that there might be wider implications. Today, with an economy that depends on these electronic tools, the likelihood that communications policies will have major effects that will ripple throughout society is much greater. That phenomenon will become even more apparent as we approach the turn of the century.

This circumstance alters the traditional benefit-risk equation. It increases the odds that a communications policy decision will yield major benefits. Conversely, it heightens the risks. Because if we make the wrong choices, it is not simply a question of affecting a communications industry adversely. One also incurs the risk that the country will be seriously harmed. *NTIA Telecom 2000* makes four major points. First, it notes that this is a sector that matters; it matters intrinsically because it represents over 6 percent of our Gross National Product, and it also matters as what economists call a 'production factor.' That is always such an obvious point to people who work in communications and information, but it is not something that many policymakers, much less the public, necessarily recognize.

If one looks at the total business investment in durables in 1988, for instance, one sees that about 24 percent of it went into communications, information, or related electronics-based products. Presumably that large investment, which is about eight times what it was ten years ago, reflects how much commerce and industry value this sector's economic contribution. And, of course, there are the absolute numbers. AT&T, for instance, has forecast that there will be at least a $1 trillion information economy worldwide by 1992.

Another message of *Telecom 2000* is that, all other things being equal, the less regulated a given communications market is, the faster it will grow. And, the faster the economy that it serves will grow as well. Hence, benefits of liberalization are discussed in terms of economic growth. A few years ago, the Organization for Economic Cooperation

and Development (OECD) started comparing the rate of telecommunications revenue growth and overall economic growth in various countries. Many factors affect how fast a country's economy and its telecommunications market grow. But if one looks at the numbers, what is clear is that the more competitive a telecommunications sector is, the faster it appears to grow. And, the faster telecommunications grows, the faster the overall economy tends to grow.

In the general oversight part of *Telecom 2000*, three countries are picked as examples: Britain, Japan, and Canada. Each has conducted a public debate about competition in communications. Britain and Japan decided to liberalize; in Canada, however, the government was more cautious.

What do the figures show? In Britain, where competition has been allowed in just about every part of the communications market including local exchange (something that not even the United States has been prepared to allow), between 1986 and 1987 telecommunications revenues grew at an annual rate of 12.4 percent, and the British economy expanded at a rate of 5.2 percent, the fastest of any OECD country. In Japan, where competition has been legally authorized, but truly effective competition is still to come, the telecommunications market grew by about 5.1 percent during 1986 and 1987, while the Japanese economy grew by about 4.3 percent.

In Canada, in contrast, where competition is much more limited, revenue growth trends seem to be steadily downward. During the relevant period, communications revenues increased by only about 2 percent, and the overall Canadian economy by 4.1 percent. Canada thus has the distinction of being the only OECD member where the telecommunications sector is currently growing substantially slower than the economy as a whole. (During the same period in the United States, we had telecommunications sector growth of 8.4 percent a year and GNP growth of 3.2 percent.)

The third major point made in *Telecom 2000* was the conclusion that telecommunications markets today are becoming deregulated due to what governments do and to changes in technology. In 1970, sales of telecommunications equipment in the United States and the purchases by the regulated phone companies, for example, closely matched. In 1985, however, United States regulated common carriers providing public network services accounted for only about 59 percent of equipment demand – about $13.6 billion out of a total of about $22.9 billion. In 1990, the regulated carriers are expected to account for about 55 percent of total demand of $30.6 billion. This means that regulated

companies over five years accounted for 4 percent less of a market that expanded 34 per cent. Moreover, NTIA estimates call for the regulated companies - or, more accurately, the regulated parts of the communications economy - to continue to lose about 1 percent of market share annually, as the market grows about 7 percent yearly over the next decade or so.

This is not necessarily only an American phenomenon. A Frost & Sullivan marketing survey indicated, for instance, that in 1984 European public carriers bought 63 percent of all the fiber optics and associated equipment sold in Europe, but only 32 percent in 1988.

What we are seeing is an application of the rule that the less regulated a sector, the faster it will grow. Private systems are less regulated, so they appear to be growing faster than the public systems that are more regulated. Also, there is a steady reduction in the amount of economic activity that the regulatory authorities directly control. In that sense, what seems to be happening in telecommunications is not much different from what happened in the banking and securities trading business, where a great deal of economic activity gravitated to those parts of the field that were only nominally subject to regulation, if at all.

A fourth point made by the *NTIA Telecom 2000* report concerns the potential contribution that electronic tools can make both to business and society. Once in a while somebody writes a *Fortune* or *Harvard Business Review* article suggesting that all the investment in communications and computers over the past decade has not yet produced commensurate productivity or profit gains. And then there is a counter-article that argues that the critic has not interpreted the data correctly or has overlooked some major gain.

Assume that there have been gains, and, by the same token, assume that most of those gains have been made by the business community and not necessarily by the average consumer. That circumstance should alter rapidly over the balance of the century. It will alter because of the advent of a computer-literate generation and because older persons are increasing their facility with communications and computers as their job responsibilities require it. And it will alter because most major retailing operations in the country – everything from gasoline stations to grocery stores to discount chains - have installed the computer and communications hardware sufficient to sustain a much more information services intensive tomorrow. Furthermore, it will alter as more and more government services delivery programs - from library services to Social Security payments - become computer and communications dependent.

Every major country appears to be according a great deal of attention to communications and communications policymaking. This reflects a consensus regarding the importance of these electronic leverage technologies and it indicates an understanding of the benefits these services can yield. In effect, most developed nations and many newly industrialized ones have targeted this sector for special attention, which frequently results in government-funded research and development, export subsidies, and an effort to protect home industries. Many countries are, at the same time, stepping up their efforts to turn international forums on satellite, spectrum allocation, and standards development into extensions of the underlying national policy. Although the United States government is prepared to represent American national interests at such meetings, much still needs to be done.

Over the next few years, there are likely to emerge major communications, information, and electronics-based equipment sales opportunities. Unfortunately, no US-based companies appear well-positioned to capitalize on these opportunities, or particularly interested in pursuing them. Among the likely foreign sales gains are:

- *Telephone handsets* With an average useful life not exceeding seven years, much of the customer premises terminal equipment sold to subscribers in the immediate aftermath of the Bell System breakup is likely to be replaced over the next two to three years. About one-third of the installed base, or about 85 million units, should be sold. At an average installed price of $50, handset sales alone should top $4.25 billion; almost all of these products, however, will be imported from abroad.
- *Television sets* During the past decade, color television set sales peaked at 788,000 units in 1980, and black-and-white sets in 1981, when 260,000 units were sold. After declining through 1985, TV set sales are now picking up. The number of United States households (currently about 96 million) is growing at a rate nearly double the rate of popu- lation growth (as the average household is smaller, and the number of single-person households is rising as well). Assuming an average useful life of about 10 years, we should see, in 1990–1, TV set sales again peak. Estimates are that about 900,000 color sets at an average price of about $400 will be sold that year. Foreign-based firms should thus reap at least $2.5 billion from set sales in 1991 alone (assuming no significant change in current dealer markups, or further expansion by foreign-based manufacturers into distribution and retailing). Profits for manufacturers, however, should improve

markedly; current sales prices are not projected to rise significantly but are based on economies of scope and scale that have not yet been achieved, particularly with Taiwan and South Korean producers. Once sales volumes match those producers' projected levels, the profits earned should be substantially greater than today.

- *Home computers* At least 21 million home computers (defined by the industry as units costing $3,000 or less) should be sold in the United States through 1992. As many of these units are produced in Asia, or comprised chiefly of Asian components, subassemblies, and assemblies, the United States trade deficit with Japan in computers alone, for example, should rise from the current $4 billion to about $6 billion yearly, or more. At the same time, stronger competition in Europe from indigenous European manufacturers should reduce the surplus that we currently enjoy.
- *Information terminals* France's Alcatel and Matra have projected United States sales of between 30 to 50 million 'Minitel'-like units in the United States over the next five to seven years, with demand depen- dent in part on actions taken by the Bell companies and the AT&T consent decree court. A study has reportedly been conducted on the feasibility of producing the terminals using the former ITT telephone equipment plant in Corinth, Mississippi, although the portable Minitel units that will be sold in France for Fr. 5,000 will likely be manufactured there. France Telecom currently purchases Minitel terminals for about $190 apiece. If sold at a comparable price here, potential sales would be about $9.5 billion. No US-based computer terminal or other producer evidently has indicated an interest in serving this market.

The former head of what is now the world's largest corporation, Dr Hisashi Shinto of Nippon Telegraph & Telephone, provides a good concluding line. In any number of speeches he suggests that, in communications, we are at the same stage we were in electricity when we learned it could be used to do more than just provide illumination.

As a nation, the United States may have learned over the past decades that it is important to get a better handle on developments in the communications and information field, and to organize ourselves better to facilitate progress. At the same time, much of the traditional bias implicit in federal and state communications policy remains. For the most part, government has concentrated on preventing real or imagined harms. The assumption appears to have been that if government deals with the harms, good things can take care of themselves. Meanwhile,

our manufacturing base has been eroded, there has been demonstrable slippage on the research and development fronts, and in certain key respects we stand at risk of becoming a technological colony, chiefly of Japan.

For the prudent person, the events over the past few years ought to suggest that the government no longer should just worry about keeping bad things from happening. It should try to figure out how to make good things happen as well.

The *NTIA Telecom 2000* report is aimed at making good things happen, to the ultimate benefit of our country. But its fundamental message regarding the importance of communications and the contribution this sector can make to economic and societal progress is also universal. Whether it will have the sort of felicitous, affirmative effect that was intended, is an open question. As one of its authors, I hope it will.