

The Telecommunications Act of 1996 at 30

POLICY LESSONS FOR THE DIGITAL ECONOMY

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I. Introduction

Mark Jamison

On February 10, 2026, the American Enterprise Institute (AEI) gathered experts to discuss what we have learned after 30 years of the Telecommunications Act of 1996. The '96 act has been the only significant amendment to the Communications Act of 1934, and it made fundamental changes to the country's communications policies. It opened almost all markets to competition, some of which had government-protected monopolies for nearly a century. It also provided detailed rules to facilitate this competition. The '96 act unwound 40 years of anti-trust restrictions—originating from a 1956 consent decree and a 1984 Modification of Final Judgment—that had been placed on AT&T and its Bell operating company offspring that had been spun off in 1984.

How did this all work? What approaches to regulation and deregulation worked well and can serve as patterns for future regulatory decisions? And which approaches should never be used again?

To explore these and other questions, AEI brought together Reed Hundt, who was chairman of the Federal Communications Commission (FCC) when the '96 act was signed into law; Professor John W. Mayo of Georgetown University; Ruth Milkman, who served as Hundt's legal adviser; Adam Thierer of R Street; and Robert Quinn of AT&T. Senator Deb Fischer (R-NE) gave the closing keynote.

This volume contains chapters by Hundt, Fischer, Mayo, Thierer, and me. The conclusion summarizes

what was said in the event. I am grateful to the authors, speakers, and AEI staff who made the event possible.

Two Approaches to Policy

One way to understand the chapters in this volume is to see them as representing two different approaches to telecommunications policy. Senator Fischer emphasizes a clear vision of the outcome she believes policy should achieve: reliable, high-quality broadband access for all Americans, including those in rural and geographically challenging areas. From this perspective, broadband connectivity is no longer a luxury but a prerequisite for participation in modern economic and civic life. Concerned that markets alone may not deliver this outcome, she emphasizes targeted government action to fill the gaps.

Hundt's chapter shares elements of this outcome-oriented perspective. He emphasizes government's role in shaping the direction of technological change and sharing the benefits widely.

In contrast, the chapters by Mayo, Thierer, and me emphasize the economic processes that generate innovation and investment. They focus on allowing the separate decisions of customers, service providers, employees, and investors to determine which services are created and used. In this view, competition and

entrepreneurial experimentation are discovery mechanisms that reveal what technologies, business models, and services best meet consumer needs.

Reed Hundt: History Rhymes

Hundt argues that the policy experience surrounding the '96 act offers important lessons. He reflects on how policymakers responded to the telecommunications and internet revolutions of the 1990s, contending that government actions during that period helped replace the old system of regulated monopolies with a framework that encouraged competition, technological innovation, and global expansion of American communications firms. Major accomplishments include the FCC's use of spectrum auctions to launch the digital cellular industry, US leadership in opening global telecommunications markets through international negotiations, and the creation of the E-Rate program to connect schools and libraries to the internet.

At the same time, Hundt identifies several developments that he views as cautionary lessons for the AI era. He argues that policymakers underestimated the long-term consequences of Section 230 of the Communications Decency Act, which granted online platforms immunity from liability for user-generated content. He believes that this allowed harmful online behavior to proliferate with insufficient accountability. He also suggests that antitrust enforcement failed to anticipate the scale and influence of emerging technology platforms and that policymakers did not adequately anticipate the boom-and-bust investment cycle associated with the dot-com era.

Looking forward, he proposes that the United States respond to the rise of AI with a similarly ambitious policy framework. There should be a new Artificial Intelligence Commission—a bipartisan, expert body modeled in part on the FCC's role in internet regulation during the 1990s. Such a commission could coordinate national policy on issues ranging from protecting children and privacy to managing workforce disruption, energy infrastructure for data centers, and US competition with China. In Hundt's view, a proactive national strategy is necessary to ensure

that the benefits of AI are widely shared and that its risks are responsibly managed.

Mark Jamison: When Regulation Meets Reality

I argue that the '96 act's most lasting successes occurred where it removed legal barriers to competition and innovation, while its most problematic provisions were those that attempted to manage competition and preserve outdated industry structures. Before 1996, telecommunications markets had been shaped by decades of government-sanctioned monopolies and regulatory boundaries that divided the industry into distinct categories, such as local versus long-distance service and computing versus communications. Technological change had eroded these distinctions, but regulation held them in place.

I conclude that the mixed results of the '96 act provide important lessons for policymakers confronting emerging technologies such as artificial intelligence. The act's attempts to engineer managed competition, particularly through detailed requirements for infrastructure sharing, produced years of litigation and slowed technological progress. In contrast, the most dynamic developments in the sector occurred where regulation receded and firms were free to experiment with new technologies and business models.

I draw several broader lessons from the results: Regulatory frameworks built around fixed technological categories are unlikely to survive rapid innovation, competition functions as a discovery process that policymakers cannot design in advance, and the most important policy decision is often what government chooses not to control.

Adam Thierer: Why the Telecom Act Was Essential yet Failed

Thierer argues that the '96 act was both necessary and flawed. It was an important step toward dismantling the rigid regulatory structure that governed telecommunications for decades, but it ultimately fell short of

delivering the reforms many hoped for. The '96 act was marked by significant ambiguities and internal contradictions that left major questions unresolved and allowed regulators—particularly the FCC—to retain substantial discretion in shaping the industry's future.

Despite these shortcomings, there were important successes where policymakers exercised restraint. By concentrating most of the statute's regulatory mechanisms on legacy industries such as wireline telephony and cable television, the law effectively left emerging digital sectors—including the internet and related online services—relatively free from heavy regulation. This regulatory restraint, combined with provisions such as Section 230 of the Communications Decency Act and federal preemption of certain state and local barriers to entry, helped create an environment in which new technologies and business models could develop rapidly. In Thierer's view, economic freedom enabled the growth of internet-based services, e-commerce, and mobile communications.

Yet the '96 act failed to eliminate the complex legacy regulatory silos. This allowed the FCC to micromanage industry structure through detailed rules on network sharing and pricing. The result was a prolonged period of regulatory disputes, litigation, and policy uncertainty that slowed the transition to fully competitive markets. Policymakers should revisit the unfinished business of telecommunications reform by reducing outdated regulatory mandates, reconsidering the scope of the FCC's authority, and ensuring that future technologies—including artificial intelligence—are not subjected to the same type of regulatory expansion that characterized communications policy.

John W. Mayo: Reflections at 30 Years

Mayo examines the forces that led to the passage of the '96 act and assesses its economic legacy. He argues that major policy change tends to occur when an industry's underlying equilibrium—among technology, competitors, and regulators—breaks down.

Such a disequilibrium emerged following the 1984 breakup of AT&T. The divestiture unleashed new

long-distance competitors using new technologies, while AT&T and the Bell operating companies found themselves constrained by regulatory boundaries that limited their ability to compete. Regulators faced an increasingly fragmented and outdated regulatory structure. These pressures coincided with a broader political climate favorable to deregulation and competition, creating the conditions for Congress to act.

Assessing the '96 act's economic effects is challenging because the legislation coincided with rapid technological change, including the rise of the internet and mobile communications. That said, several broad indicators point to substantial gains for consumers and the broader economy. Prices for communications services have declined significantly, while the range and quality of services have expanded dramatically. Usage has surged, and the industry has attracted extraordinary levels of private investment—more than \$2 trillion since the act's passage—to support new infrastructure and innovation. While the '96 act helped establish a competitive and investment-friendly environment that generated substantial benefits, policymakers must remain attentive to preserving the conditions that allow innovation and competition to continue.

Deb Fischer: Broadband Policy Agenda

Senator Fischer outlines a policy agenda focused on closing the digital divide. She emphasizes that dependable internet connectivity has become essential for modern life, as it underpins education, telehealth, small-business development, and precision agriculture. Because many rural and geographically challenging areas lack the population density needed to attract private investment, she argues that federal policy must play an active role in ensuring that rural communities are not left behind.

A central element of Senator Fischer's approach is modernizing the Universal Service Fund (USF), the long-standing federal program that provides financial support for high-cost and underserved geographic areas. She is co-leading a bipartisan, bicameral working group examining how the USF should

be updated, focusing on ensuring the program is sustainable, legally durable, and effectively targeted. This includes reassessing key components of the USF, such as programs targeting rural communities, schools and libraries, healthcare providers, and low-income households.

She also emphasizes the importance of effective implementation of the Broadband Equity, Access, and Deployment (BEAD) program established by Congress in 2021. While she supports the significant federal investment, she stresses that states must retain flexibility in determining how funds are used. In her view, broadband policy should not impose a single technological solution from Washington but instead allow states to deploy a range of technologies suited to their geographic and economic conditions.

Where the Chapters Differ and Converge

While the authors broadly agree on the importance of the '96 act and the subsequent transformative changes, they differ in how they evaluate government's role in shaping those outcomes. One point of disagreement concerns the FCC's efforts to manage competition in the years immediately following the '96 act. Hundt views the agency's interconnection requirements, pricing rules, and limits on incumbent firms as necessary steps to ensure competition. By contrast, Thierer and I argue that these efforts represented the least successful elements of the '96 act. In our view, policies such as mandatory network unbundling and complex pricing formulas produced extensive litigation and regulatory complexity while doing little to encourage competition or innovation.

The authors also diverge in their views about how the lessons of the telecommunications transition should inform policy for emerging technologies such

as artificial intelligence. Hundt sees the 1990s regulatory experience as evidence that proactive government leadership can guide technological revolutions in beneficial directions. Thierer and I reach the opposite conclusion, warning that attempts to design market outcomes through regulatory planning fail in fast-moving environments.

Yet the authors share several important points of agreement. First, all agree that the pre-1996 regulatory regime had become outdated and unsustainable. Rapid technological change and growing competitive pressures had rendered the system increasingly dysfunctional and, as Mayo said, a fragmented disequilibrium. The legacy system had become economically fragile and legally complex.

The authors also agree that the rapid pace of technological change quickly outstripped many of the regulatory categories embedded in the '96 act. The law was written around distinctions such as local versus long-distance service and telecommunications versus information services that were rapidly overtaken by the rise of the internet, wireless networks, and broadband technologies. The technological convergence erased the boundaries that regulation had attempted to maintain.

Finally, the authors broadly agree that the most successful elements of the post-1996 communications landscape arose where policy allowed markets to operate and technological experimentation to flourish. Although they differ in their interpretations of specific provisions, each author recognizes that the shift away from monopoly regulation toward greater competition coincided with dramatic economic and technological progress, and the United States emerged as a global leader in digital technologies, supported by an ecosystem in which firms were able to experiment, invest, and scale new services in response to consumer demand.

II. Learning from the Telecommunications Act of 1996: Multiple Viewpoints from Different Vantage Points

Mark Jamison

Thirty years later, there is still much to learn from our experiences with the Telecommunications Act of 1996. That was the focus of an American Enterprise Institute event on February 10, 2026, which featured former Federal Communications Commission (FCC) Chairman Reed Hundt, who led the agency during its initial stages of implementing the act; a panel of experts providing multiple viewpoints regarding lessons from the act; and Senator Deb Fischer (R-NE) describing a way forward.¹

To set the stage for the event, Hundt released a paper outlining similarities between the problems of telecommunications in 1996 and AI today.² In it he supplies an inside-the-state perspective on how government strategy, institutions, and political coalitions operated under the act and what he sees as the benefits derived from it.

I also released a paper for the event. My paper came out second, but I specifically avoided reviewing Hundt's paper as I did not want to simply comment on his thoughts. My view is an outside-the-structure perspective: I joined academia shortly after the passage of the '96 act and from that vantage point

observed the importance of deregulation and customer-driven markets.

Despite our different vantage points, our papers have much in common. We share a core diagnosis that the act was written for industries that were already dissolving: The law created detailed regulations requiring local telephone companies to help telephony and video rivals just as digitization was collapsing the boundaries among computing, communications, and content. My lesson for lawmakers is that regulating existing business categories is largely counterproductive when technology change is erasing legacy classifications.

On a related note, Hundt and I both observe that the act's most consequential outcomes were not those that policymakers tried hardest to engineer. The "grand bargain"—reciprocal entry of Bell companies and long-distance companies into each other's markets—did not work out as planned. Long distance existed as a market only because of legacy regulations. Once these regulations were demolished, companies converged and transformed into integrated wireless and broadband companies providing diverse services.

My lesson for lawmakers is that competition is a discovery process, not a design exercise.

We both emphasize the central role of technology convergence in shaping the aftermath of the act. But while Hundt sees this convergence as a strategic opportunity seized by the government, I view it as an external force, pressing with increased intensity against outdated regulations before sweeping them away.

The importance of institutions is a common theme between us, but we find different lessons. Hundt rightly highlights the quality work of his FCC staff, while I emphasize the problems courts, consent decrees, and state and federal regulation created before the act. Consequently, we reach different conclusions: Hundt believes that the country needs a new regulatory commission for AI, while I hold that such an agency would trigger *déjà vu*—an agency writing rules that cannot help but freeze in time what would otherwise be fast-changing industries.

Hundt and I have different takes on the value of how the industries have changed. He sees the government as a critical player in technology choices, and

he sees market consolidation—primarily as it manifests in social media and attention markets—as problematic, requiring renewed regulatory investment. My view is different: Absent unmerited favors, such as government protections, businesses growing to unprecedented scales is a consequence of customer choice, which should not be hindered by someone else’s regulatory preferences.

Hundt also emphasizes a theme I do not address—the distributional effects of universal access subsidies and programs like E-Rate. He sees these as integral to the legitimacy and positive legacy of regulation. I, instead, emphasize benefits found in customers rather than regulators choosing which innovations and providers will succeed, holding to the view that the business of business is to serve customers.

Three decades on, the effects of the Telecommunications Act offer durable lessons in humility. The law mattered most not where it tried to engineer markets but where it stepped aside and allowed technologies, investments, and consumer choice to reorder and re-create communications industries in unanticipated ways. Innovation is always a surprise.

Notes

1. American Enterprise Institute, “30 Years of the Telecommunications Act: What Did We Learn?,” February 10, 2026, <https://www.aei.org/events/30-years-of-the-telecommunications-act-what-did-we-learn/>.

2. Reed Hundt, *History Rhymes: 1996 Telecommunications Act and Artificial Intelligence*, 2025, <https://www.aei.org/wp-content/uploads/2026/01/260210-Hundt-History-Rhymes.pdf>.

III. History Rhymes: The 1996 Telecommunications Act and Artificial Intelligence

Reed Hundt

In 1990, the only cell phone you could buy was a big analog device that cost up to \$3,000. Adjusting for inflation, that's \$6,000 in today's money. If you take that money to an Apple store, you can buy all the following: a MacBook Air, an iPhone 17, an iPad Air, an Apple Watch, and AirPods. You would have about \$3,000 (minus tax) left over.¹

This consumer cornucopia is reflected in the comparison of the most valuable public companies in the 1990s and now (Table 1). The top seven firms now all come from the communications technology revolution jump-started in the 1990s. Their values are staggering because they sell highly desired goods and services that reach deep into American society and broadly around the planet. They shape humans' perception of reality and affect the nature of consciousness.

Of course, the American government did not invent the products sold by these firms or finance the businesses. But three decades ago, it did choose a strategy aimed at enabling innovators and investors to produce these outcomes.

The legislative cornerstone of that strategy was the Telecommunications Act of 1996, passed by Congress on February 1 and signed digitally by President

Bill Clinton on February 8, 1996, in the Library of Congress. The White House selected a venue and method intended to depict what was happening.

Through the Telecommunications Act, the United States adopted a rule of law for communications technologies that moved from the tightly regulated analog world of Bell companies and network-dominated broadcast TV and radio to a largely deregulated digital platform that fused computing and communications. The tactics included legislation, regulation, antitrust policy, multilateral agreements, and a record-breaking investment in every classroom and library in the United States.

This chapter describes how the national government's strategy three decades ago led to today's global information environment. This history shows that government actors can use their power to do more good than harm. They can win and deserve the trust of the people they are sworn to serve.

I also explain why the lessons of the grand strategy adopted for digital communications three decades ago suggest it is time to create an Artificial Intelligence Commission. This commission should report to Congress and the executive branch, work with state governments, and transparently engage with

Table 1. Most Valuable Companies, 1990 and January 2026

Rank	1990 Top Companies	January 2026 Top Companies	January 2026 Market Cap
1	IBM	Nvidia	\$4.51 Trillion
2	Exxon	Alphabet (Google)	\$3.94 Trillion
3	General Electric	Apple	\$3.84 Trillion
4	Philip Morris	Microsoft	\$3.55 Trillion
5	Royal Dutch/Shell	Amazon	\$2.63 Trillion
6	Bristol-Myers Squibb	Meta Platforms	\$1.63 Trillion
7	Merck & Co.	Broadcom	\$1.58 Trillion
8	Walmart	Tesla	\$1.45 Trillion
9	AT&T	Berkshire Hathaway	\$1.08 Trillion
10	Coca-Cola	Eli Lilly	\$972.82 Billion

Source: Marcus Lu, “How the Top S&P 500 Companies Have Changed over Time,” *Visual Capitalist*, October 3, 2024, <https://www.visualcapitalist.com/how-the-top-sp-500-companies-have-changed-over-time>; and Cherry Gupta, “Top 10 Most Valuable Global Companies of 2026: Nvidia Leads the List as Alphabet Overtakes Apple to Reclaim Second Spot,” *The Indian Express*, January 15, 2026, <https://indianexpress.com/article/trending/top-10-listing/top-10-valuable-global-companies-2026-nvidia-alphabet-apple-leads-10463535/>.

the nonprofit and for-profit sectors, where massive talent is already dedicated to pushing artificial intelligence’s capability to the limit. This amazing technological breakthrough plainly has immense potential to benefit the United States and humanity, but it could create significant disruption—or worse.

The American people deserve public servants committed to crafting the national government strategy for making the best and avoiding the worst of the effects of this new revolution. The AI revolution may exceed the significance of the communications technology revolution. It may vastly exceed it. But as this chapter shows, the public will be well served if an agency dedicated to AI does its job as well as the government did in addressing that wave of change 30 years ago.²

Everyone and Everything All at Once

The 1996 Telecommunications Act was part of a triptych of statutes that empowered the Federal

Communications Commission (FCC) to reverse the government’s stance toward the critical telecommunications sector: the 1996 act; the Omnibus Budget Reconciliation Act of 1993, which authorized the FCC to create the digital cellular industry; and the Cable Television Consumer Protection and Competition Act of 1992 (known as the Cable Act), which created the incentives for satellites to deliver content and cable companies to take early steps toward becoming broadband providers. Underlying all three laws was the singular premise of reversing the 1934 Communications Act’s commitment to regulating monopolies. Replacing that was the new paradigm: competition, innovation, the merging of computing and communications through digitization, the birth and death of firms, and consumer benefits distributed to everyone not only in the United States but everywhere in the world.

The ideas animating the new strategy had been under development since the 1980s. In that decade, Democrats, routed electorally and demoralized by Ronald Reagan’s brand of conservatism, began to

discuss how to fuse private-sector dynamism with government strategy, as Japan had compellingly demonstrated. As “Atari Democrats,” both Governor Clinton and Representative (then-Senator) Al Gore were thought leaders in reconceiving the purpose of government.

By President Clinton and Vice President Gore’s inauguration, the Cold War was over, the Soviet Union had collapsed, the bipolar world had turned into globe-circling opportunity, the personal computer was more important than the mainframe, and software was becoming a new common language. The new administration was sure that technology and capital markets drove history. The Clinton–Gore strategy was for government to enable nongovernment forces—research and investment, especially relating to computing—to increase economic growth while assuring that the benefits of growth were shared by everyone in the country and the world.

In 1992, the FCC was not regarded as either a hot place to work or the seedbed of economic growth. The agency occasionally emerged into public view when its chairs commented about broadcast television, the common national medium: In 1961, Chairman Newton Minow called TV “a vast wasteland,”³ for which he was honored by having the boat on *Gilligan’s Island* named for him.⁴ TV is “a toaster with pictures,” said Chairman Mark Fowler in 1981,⁵ which won him plaudits from libertarian think tanks, although the 63 million people who watched *The Cosby Show* (number one at that time) probably disagreed.⁶ A chair could also get attention by fining Howard Stern for indecent language (one of the items on the desk when I arrived as chair in 1993).⁷

Otherwise, it implemented technical, arguably boring regulations relating to the interaction of monopolized landline telephony with the long-distance oligopoly of AT&T, MCI, and Sprint. The agency was of limited importance in business, finance, and politics.⁸

That changed dramatically from 1993 to 1997.

During the 1992–93 presidential transition, Gore asked Clinton to give him the power of the pen in two areas: communications and the environment. The president-elect agreed. Clinton and his wife

were focusing on fixing the budget deficit and providing affordable health insurance to everyone. The latter move would bolster the former by lowering the national government’s healthcare expenditures. These two heavy lifts with a Democratic but divided Congress would take all the political savvy the Clintons could muster (not a small amount, but note that Bill Clinton had not won a majority of the national popular vote and, almost immediately upon election, suffered many assaults by national media).

Gore, despite his subordinate role, was given substantial liberty to shape strategy in his two chosen areas. The pillars of the Gore strategy were

- Competition among private firms to increase investment, even if that meant building redundant networks;
- Government support of new industries generally, but not specific companies in these multi-actor industries;
- Specific steps to share economic growth with every income class, education level, and geographical area in the country;
- Demand creation for a skilled workforce, motivating people to go to college, study science, and get smarter; and
- Inclusion of everyone in the social benefits of access to information.

The strategy was also international. American firms would show the world how digital technology changed operations, created efficiency, and spawned new firms. The American government’s laws and regulations would be copied in every country. The world would be wrapped in intelligence and the common pursuit of sustainable growth. (Gore also had the environmental portfolio for this reason.) Democracy would flourish even in the ashes of the “evil empire” and even in China, which had only just rejected Maoism.

The United States government could not order all this change. We were not going to pay for these

developments or pick particular firms to be winners. Instead, we would change the rule of law to align technological innovation and investment with the goal of increasing all Americans' standard of living. That was the plan—some would describe it as “neoliberalism.” The term now draws opprobrium from the left and right. To paraphrase Franklin Roosevelt's defense of the Tennessee Valley Authority, it does not matter what you call it; it worked.

The impulse to make money and the desire to invent are powerful forces. They can be directed toward, to put the matter starkly, good or evil. A society creating wealth through change can have rising inequality or greater equality, hostility of the have-nots toward the haves or a sense of solidarity in a great collective enterprise, disunion or union. We believed that a good strategy and a well-designed rule of law, including regulation and some public spending, would cause investment and invention to produce great results for the United States and the world.

For the greater part of the past three decades, most of what resulted was beneficial. Now a new era of change has begun.

Government Should Aim to Win the Trust of the People

Most Americans do not trust the government. They do not like either of the two major political parties. They do not believe government provides what they want. No nation is likely to thrive if the national culture rejects and resents the efforts of elected and appointed public officials.

The Clinton–Gore administration confronted the same problem in the 1990s. After the oil shocks and economic disruption of the 1970s, the American people had lost faith in institutions. Our plan was meant to change attitudes toward government for the better in part by making explicit the pact between government and the private sector to do well and do good at the same time—putting the matter too simply but not incorrectly. The strategy worked, as Figure 1 shows. A quarter century of declining trust in institutions was reversed.

Starting with the response to the economic downturn of 2000–01 and running through the ill-fated invasion of Iraq, through the financial crisis of September 2008, and into the present, that trust has again eroded. If the current national government strategy is rebuilding it, the effect may be confined to the administration's political base. This is not a good harbinger for the survival of the American experiment. Addressing AI is critical to rebuilding trust in American government.

Our communications technology revolution and AI were and are both global in dimension. In the 1990s, the American government and business sector faced a world of opportunity. The Cold War was over. Communism had lost. The Soviet Union had collapsed, and all the countries in the Soviet bloc were available for investment. China, too, had rejected Mao and was ready for capitalism, if not democracy. Our strategy necessarily aimed at persuading the whole world to adopt our new rule of law for communications technology. Success globally for American businesses would then follow.

China is not the same country anymore, of course. It has created its own distinctive internet economy. It is building its own AI sector. But leaving global AI opportunity for Chinese firms does not seem to be the best way for the American AI firms to succeed. The AI strategy for government now, just as in the 1990s, should be global.

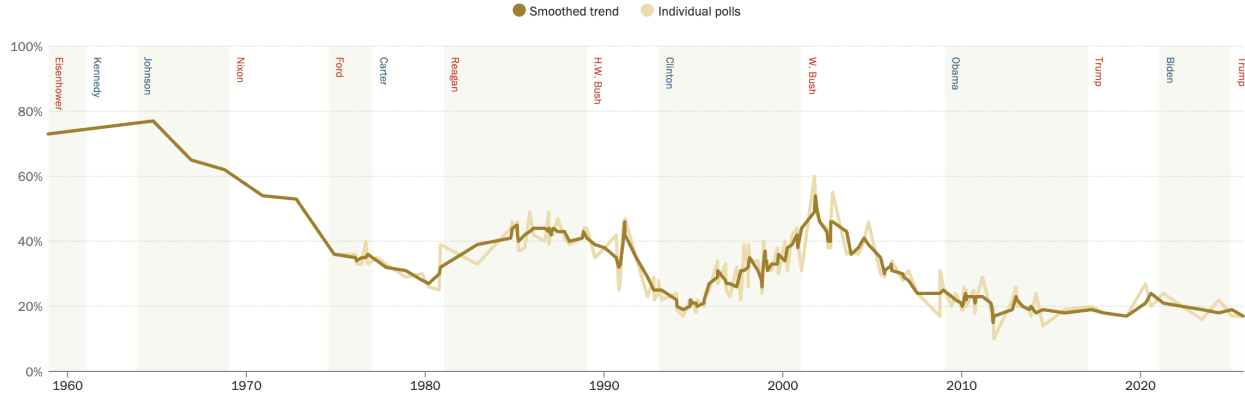
The American people must support a government strategy for it to succeed. Public opinion is everything. This was true for us in the 1990s and is true for AI now. These questions were the same for us then as they are for government now:

- Will technological innovation make everyone in the United States better off or only some better off and a few much, much richer?
- Will the innovation lead to better and more jobs or worse and less work for most people?
- Will there be any reason to go to college and learn new things if the new jobs and new skills are not being taught in higher education?

Figure 1. Historic Levels of Public Trust in Government

Public trust in government near historic lows

% who say they trust the government in Washington to do what is right *just about always/most of the time*



Source: Pew Research Center, “Public Trust in Government: 1958–2025,” December 4, 2025, <https://www.pewresearch.org/politics/2025/12/04/public-trust-in-government-1958-2025/>.

Note: The smooth trend line from 1976 to February 2025 represents a three-survey moving average. Data from before 1976 and the most recent number (from September 2025) are from individual polls.

- What outputs will grow in scale and scope, and are they intrinsically good for humanity?

Now, more than was the case in the 1990s, there is the ultimate question: Will this technology replace us? To some degree, all technologies have reduced humans’ role in changing the world. Will this one take humans out of the equation?

The People Need Government to Help Make the Best of Technological Revolutions

Every major technological shift raises the issues of trust in government, global impact, and the people’s well-being. Eventually government responds with legislation and regulation to address these topics.

The goal of government action may be to share benefits among those who appear left out (demonstrated in the idea of requiring telephone companies to offer service “universally,” which means to every household). Or it may be to alter the direction of change (e.g., through support for or opposition

to renewable power). It can be, too, recovering the economy after the economic bust that follows the technology-driven boom. Regardless of the purpose, technological innovation often leads to the creation of one or more agencies to put the government response into effect through regulations.

The United States’ railroad expansion busted in the Panic of 1873. The continent-spanning railroads are still used today, but the economic collapse led to populism, the Great Railroad Strike of 1877, and decades of worker unrest. It contributed to the national government’s surrender to the Southern white insistence on ending Reconstruction. And on the regulatory front, in 1887 the Interstate Commerce Commission was formed.

Radio and electrification of households drove the boom of the roaring twenties. The darling of the stock market, the Radio Corporation of America (RCA), went from \$1.50 a share in 1921 to \$549 in 1929. It lost 97 percent of its value by 1932 and did not recover completely for three decades. Now you have to be very old to have heard of it.

The bust created a decade of depression, enabled fascism to take over democracies, and led to the

Second World War—and the creation of the FCC to make sure that at least the national telephone company, AT&T, would not fly high then crash like RCA. The FCC of course was only one of many agencies created in response to the Great Depression.

The year after the atomic bombs were dropped on Japan, the United States formed the Atomic Energy Commission (AEC). Partly in response to the Arab states exercising more control over oil supply and price, the Energy Reorganization Act of 1974 replaced the AEC with the Nuclear Regulatory Commission. That agency did not prevent the 1979 Three Mile Island accident or the bankruptcy of the venerable Westinghouse Electric Company because of cost overruns on nuclear power plants. Nevertheless, the AEC's mixed track record does not alter that this technological revolution also caused an expert agency to be created.

Currently, the national government strategy for artificial intelligence is to consider banning state regulation. What is needed is an Artificial Intelligence Commission. The public deserves an institution dedicated to serving the public interest as this new technological revolution changes the world yet again.

In the 1990s, as the communications technology revolution was taking shape, the FCC was available for the same mission. It had to change operationally and be given new authorities, but it did its job. No such governmental institution appears available to address AI. Indeed, at present, the government's recent downsizing has left it less prepared to assemble and recruit the talent it needs for a number of purposes.

To address the question of what an Artificial Intelligence Commission might be charged to do, let us go back three decades to review the role the national government and its expert agency, the FCC, played in the communications technology revolution.

Abraham Lincoln said, "The legitimate object of government, is to do for a community of people, whatever they need to have done, but can not do, *at all*, or can not, *so well do*, for themselves—in their separate, and individual capacities."⁹ (Emphasis in original.) Faced with the intimidating complexities and mysterious capabilities of AI, nearly everyone would admit to being baffled and buffaloed. Surely government

needs to "do for a community of people, whatever they need to have done" about this technology revolution. That was the role assumed by government in the salad days of the communications revolution.

1993: Strategy Formation and Legislative Authority

In 1993, Gore convened a working group weekly or every other week to develop the administration's technology strategy. I was awaiting confirmation as FCC chair (which did not occur until November) and was a working group member, along with future Nobel Prize winner Joseph Stiglitz, antitrust division head Anne Bingaman, and Gore staffer Greg Simon. The vice president selected the themes and explained his strategic goals. The group debated the objectives and tactics.

The overriding theme was that one network would be built for everyone in the United States—and then the world. Everyone would be connected to everyone at very low cost. All information—everything humanity had ever learned—would be put in digital form and shared on this network. After much discussion, the vice president decided this "information superhighway" would be the internet.¹⁰

In August 1993, the Clinton budget was adopted with the tiebreaking Senate vote cast by Vice President Gore. That Omnibus Budget Reconciliation Act instructed the FCC to create the digital cellular industry—from scratch. The agency was to decide who got spectrum licenses—authorizations to use electromagnetic frequencies that could be manipulated to carry the ones and zeros of code at approximately the speed of light just like radio and broadcast TV did for the analog signals, soon to be relegated to the past.¹¹ More than that, the agency could decide everything relating to that spectrum's use. This was not specified in the legislation, but it was authorized by the now-ancient 1934 Communications Act and implied in the budget law.

Also in 1993, researchers at the University of Illinois Urbana-Champaign released software (called a browser) that enabled anyone to create a picture on

a computer that could be sent to anyone anywhere in the world who was electronically connected to that computer. And the browser enabled the person at the keyboard to look at any other computer's picture. The information had to be sent digitally, but the CERN laboratory in Switzerland had a resident genius named Tim Berners-Lee. He invented software that enabled these connected computers to share information, and, embracing the one-world vision that was the Clinton-Gore strategic goal, he gave it away for free.

Free software to connect all desktops. All that remained to be provided was a way for the connections to be made. It would be the internet. That became the "information highway." But the FCC had to make the connections possible, for as many as economically possible and as fast as possible. This world-changing technological revolution was to leave no one behind or unconnected in the great transformation.

Beyond that, the rest of the planet was to be wrapped by this new network called the internet. Then as a global community, we could solve climate change and every other problem humanity faces.

In 1993 the FCC, still under old management, had applied the 1992 Cable Act in a way that raised all cable prices. The agency's objective in the do-over rulemaking was to lower the prices the local cable monopolies charged for the same bundle of channels. (These are the tiered services now disappearing as consumers instead pay for streaming apps.) We wanted to create competition for the cable companies while giving them an incentive to add more channels. This was a daunting task, appropriately delegated to an agency that was beefing up its economic muscles by adding first-rate economists from the University of California, Berkeley, (Michael Katz) and Stanford University (Greg Rosston) and promoting talent from within to prominent roles in shaping the rulemaking.

Finally, in 1993, Congress, led by Ed Markey, John Dingell, and Rick Boucher in the House and Senators Jay Rockefeller and Fritz Hollings, began writing what became the 1996 Telecommunications Act. President Reagan's brilliant, fearless antitrust division head,

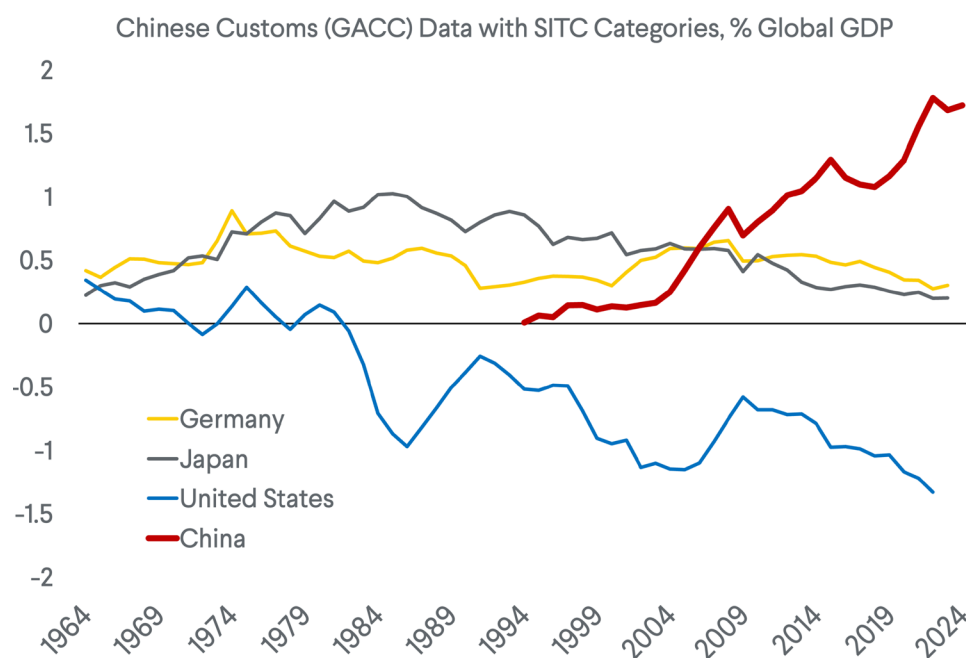
Bill Baxter, had broken up the AT&T phone monopoly in 1983—the biggest restructuring of a major company by federal mandate since the breakup of Standard Oil. And so far it is the last of its kind, as subsequent governments have rarely tried and never managed to curtail the expansion of the social media giants or even divide Intel between foundry and design. Lina Khan tried during her tenure at the helm of the Federal Trade Commission, but both the judicial process and the lack of time stymied her.

From the moment Baxter divided telephony between landline monopolies offering local voice service (the seven "Baby Bells") and the three long-distance firms (AT&T, MCI, and Sprint), the Bells wanted to offer long distance. The states were regulating the Bells' prices at low rates of return. Long distance was more lucrative, and they could offer it easily with their tangible connection to businesses and residences.

The Bells wanted Congress to eliminate the consent decree (the Modification of Final Judgment) that had Judge Harold Greene of the District of Columbia deciding all the new businesses they could or could not enter from their monopoly position. AT&T did not believe it could count on the court order to protect its business forever, and with a pro-competition administration and a Congress in which it had some influence (as probably the most well-known and one of the most valuable companies in the nation), it was time to make a deal. Congress would let the long-distance companies acquire services, if not assets, from the Bells that would enable them to offer local telephone service. The Bells would have the Modification of Final Judgment canceled and could enter any business they wanted, including long distance.

This market share swap, each into the other's market, was perhaps more poetic than practical, but it did seem the essence of the new competition paradigm. The FCC would enable the switcheroo by rulemaking that gave each industry a fair chance to take the other's business.

Internationally, the administration's strategy was to open closed markets in every country, especially China. At that time, China's trade surplus was small,

Figure 2. Manufactured Goods Surpluses, 1964–2024


Source: Brad W. Setser and Michael Weilandt, “China’s Record Manufacturing Surplus,” Council on Foreign Relations, March 10, 2024, <https://www.cfr.org/articles/chinas-record-manufacturing-surplus>; and UN Comtrade Database, <https://comtradeplus.un.org/>.

Note: The data here are based on the Standard International Trade Classification system, and it uses the standard breakout of manufactures, using categories 5 through 9. Special thanks to Volkmar Baur of Union Investment for digging up the longtime series in the UN Comtrade Database.

focused in low-value goods, and, as Figure 2 shows, not as large as either Germany’s or Japan’s. Our goal was to open China to high-value manufactured goods and services. Indeed, iPhone sales in China in the next century ultimately reflected that plan’s success, although by then the terms of trade had changed.

Trade Representative Mickey Kantor and Deputy Trade Representative Charlene Barshefsky engaged in vigorous efforts to open Japan. The North American Free Trade Agreement had been signed in December 1992. It took effect on January 1, 1994. The new agenda for the global economy was described in the Marrakesh Agreement of April 1994, which established the World Trade Organization, effective at the beginning of 1995.

For the communications and technology agenda, the plan was for the United States to show the benefits from the new technologies and the new competition

paradigm. Other countries would imitate by learning from our successes. They also would be bound by treaty to do so. This in turn meant that if our efforts led to American firms old and new creating new digital services delivered at low cost over any distance, these firms could become global, huge, and dominant in every geographical market.

1994: Wireless, Internet, and International Agendas

By January 1994, we at the FCC had listened enough to experts of all kinds, in business and academe, that we were firmly convinced of certain precepts.

Nicholas Negroponte of the Massachusetts Institute of Technology was correct to say that everything now carried on a wire should be wireless and all the

video delivered wirelessly should be on a wire.¹² In other words, voice calls should be wireless; television content should be on fiber-optic or coaxial cables. We agreed.

In 1991, John Malone, the king of cable, gave a speech at Yale, his alma mater, in which he said that three technologies would come together and change the world.¹³ They were digitization of information (from waves emulating signals to waves carrying bits), fiber optics carrying that digitized information by and nearly at the speed of light (eliminating distance as a constraint on the transfer of information), and the microprocessor (enabling the decoding of the digitized information at any destination, including a cable box or a computer on a desk). He then said, eureka, we can have 500 channels delivered by cable, with the channels digitized, carried by fiber optics across the country, and downloaded into cable boxes in every house.

Malone had everything except the idea. The wire—or pipe, cable, or conduit, all synonyms—would be for the internet. That’s what by the beginning of the next century would be called broadband. And wireless would continually increase its capability to carry more data at a lower price per bit.¹⁴ That would lead 13 years later to the introduction of the iPhone, where the *i* stood for “internet.”¹⁵

All we needed to believe at the FCC we did believe by January 1994. Step one: Enable the internet to be the information superhighway. Step two: Enable digital cellular to go from zero customers to becoming as globally ubiquitous as Coca-Cola. Both required electricity, one for the cell towers and recharging their batteries and the other for the coolers. But Coke was already everywhere humans lived, and we wanted digital cellular to get just the same reach and be even more desired.

Our goal was to have the United States lead the world in digital cellular adoption. That meant we would allocate the spectrum first, design a market structure that drove build-out quickly, and threaten the market position of landline telephony. Other countries did not understand the strategy until we had leaped ahead of them, and many were reluctant to undercut the economics of their national landline

phone companies. Eventually, mobile was unstoppable, but we succeeded in causing the United States to lead the world in adoption. (See Figure 3.)

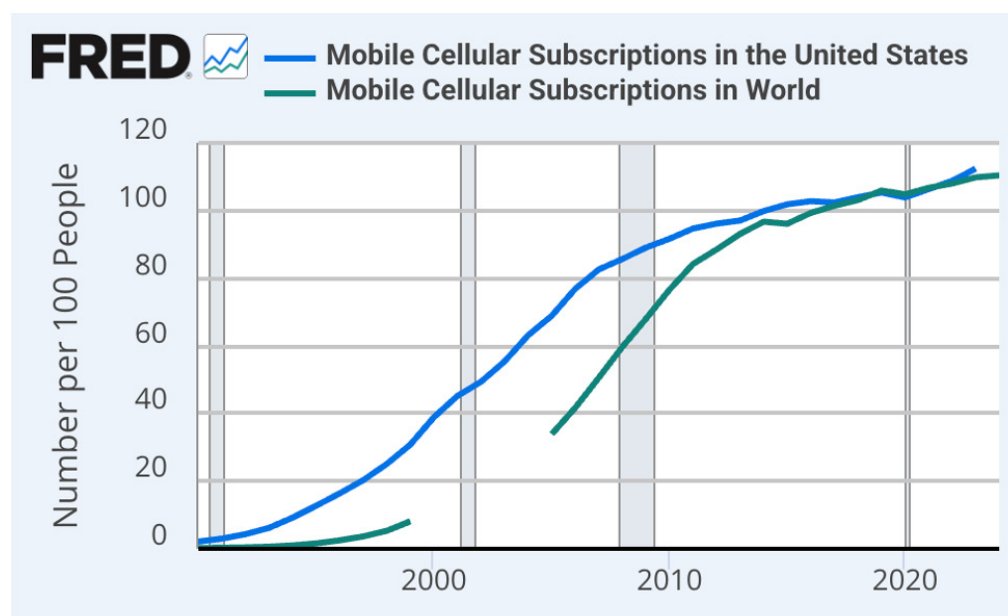
To pursue our agenda, we reorganized the agency, creating the Cable Bureau, the Wireless Telecommunications Bureau, and the International Bureau. We formed a task force for spectrum auctions, finding economists expert in the abstruse theory that won John Nash the Nobel Memorial Prize in Economic Sciences in 1994. (Russell Crowe played him in the movie *A Beautiful Mind*, in which the FCC’s auctions got a mention. This, our economists said, was better than being in *Gilligan’s Island*.)

We began hiring directly from Harvard Business School (with the help of popular professor Richard Tedlow) and other elite institutions. And we offered buyouts to many senior people while promoting others who had not been given responsibilities commensurate with their talent. Overall, we lost about 20 percent of the agency’s people and added 400 new people, increasing the agency’s size from 1,750 to 2,000.

Our international tactical plan came from Peter Cowhey, an information and trade expert from the University of California San Diego. The FCC presided over an enormous trade imbalance. About \$8 billion a year was the difference between money paid to foreign telephone companies for terminating outbound calls compared with money received in the United States for terminating calls. Immigrants calling home, businesses calling foreign branches—these were the outbound calls. The outbound calls cost on average 55 cents a minute—a huge number but the lowest in the world, because other countries charged high prices through state-owned or state-controlled telephone monopolies, in effect to tax their own international callers. Multinationals, however, were setting up their own systems to bypass these state-owned firms. The internet was sure to bring the old system to an end.

With change inevitable, our strategy was to threaten an immediate FCC order to reduce the price on outbound calls unless other countries did what we asked. We would agree to phase in declining rates over time if counterparty countries allowed fiber-optic

Figure 3. Mobile Cellular Subscriptions per 100 People, United States and the World



Source: Federal Reserve Bank of St. Louis, "Mobile Cellular Subscriptions in the United States," updated April 14, 2026, <https://fred.stlouisfed.org/series/ITCELSETSP2USA>.

Note: Shaded areas indicate US recessions.

cables to bring the internet to their shores,¹⁶ adopted our neutral attitude toward wireless transmissions software standards, regulated telephony transparently, and generally opened their communications markets to global competition.

Barshefsky loved the professor's idea. She added to it a trade agreement concerning information technology goods and services. These initiatives began in 1994.¹⁷

In March of that year, Gore gave the first speech on the vision of the internet as the global medium of information that any elected leader in the world had given in an international forum. His audience was the International Telecommunication Union's development conference in Buenos Aires.

Domestically, we adopted a multipronged approach to the internet. First, we assured all firms that they could use the local telephone line for internet communication without paying the Bell companies anything. Every phone line actually has two copper wires—the so-called twisted pair. The second, redundant one could be used to send a signal from one computer to

another computer. Then that second computer could connect to everywhere in the world through the same fiber-optic network Malone had theorized about in 1991.

But if there was a network anywhere in the United States—and there was one connecting many academic and business institutions—it also could connect to Bell landlines in every house. That meant that a computer on a desktop in a house in, say, Maryland could connect on the landline to a network and then through that network to a landline in, say, Arizona. Or Bangladesh, Beijing, or even Carlos Menem's Buenos Aires.

By assuring PC owners that they could use the local landline for free, we enabled other firms to start businesses connecting those landline internet calls to the national fiber networks. Soon there were up to 5,000 local internet access providers in the United States offering dial-up service, the name given to the use of that copper line. Names now forgotten included ClarkNet, XMission, and ATMnet.

A small company called America Online (AOL) had been founded for this purpose in 1983. But the conjunction of the browser, the CERN software, and the FCC's guarantee of noninterference by the Bells expanded AOL's potential market manyfold. Eventually it won the email business, as everyone knows from the Tom Hanks–Meg Ryan rom-com.¹⁸

In December 1996, AOL offered unlimited access to the internet for \$19.95 a month. If the Bells had charged for the use of their line, an essential component of the service, they could have raised the price for the consumer to any level. Because under the 1996 Telecommunications Act the Bells looked to offer long distance and because email could substitute for calls, the Bells probably could not have resisted the temptation to use price to slow the spread of the internet. Even if that had not been their purpose, they had an irresistible opportunity to extract rents from their monopoly ownership of that crucial copper connection.

But the telephone companies must have known we would not allow them into long distance if they slowed the spread of the internet. They wanted that opportunity. It was their central achievement in the 1996 act. So they did not direct their lobbying armies at our choice to favor the internet. The information highway was under rapid construction: The internet spread like wildfire.

We also promoted internet access firms by allowing them to recover what was called reciprocal compensation (which we relabeled “symmetric” for this purpose). If two telephone firms exchange calls, they net the total volume from time to time, and the one that places more calls (and hence collects the revenue) pays the other one to create a fifty-fifty share of the business. Internet access firms only received calls and placed none. Under the balancing regime, they got payment from the landline firms that sent them calls. This subsidized internet access because the Bells set the price high above their cost. To rebalance, they lowered the price over time—also a good outcome from our perspective.

We decided as a whole government not to regulate the internet at the FCC or anywhere in government. But we did not decide simply to ignore the need for rules. In 1998, the United States government

gave oversight of the internet domain name system to a nonprofit called the Internet Corporation for Assigned Names and Numbers. Our goal was a multi-stakeholder global governance system.

But our most well-known effort eventually proved to be our initiative to provide internet access to every classroom and library in the country. The digitized superhighway needed to reach everyone. To deliver on that promise, we at the FCC began in early 1994 to meet with schools and libraries. They built a powerful lobbying force to argue for the E-Rate program.

Fortunately, Representative Markey chose to champion this initiative. He wrote it into the early draft of what became the 1996 Telecommunications Act. His language gave the FCC the authority to place a charge on a phone bill that the agency could collect and spend on network connections for every classroom and library to the internet. With that smart move, worked out between Judy Harris and Karen Kornbluh at the FCC and the congressman's staff, the funding did not rely on annual appropriations. The FCC itself could raise and spend the money.

The Clinton administration's strategy called for rapid implementation. The American economy is big, and the global economy five times bigger. To transform both with results that could be shown by the end of two terms was a daunting task. Demonstrating progress by 1996 was important, or there might not be a second term. At the FCC we needed to conduct spectrum auctions quickly. That was the way to launch the digital cellular component of the strategy.

We held the initial auctions in July 1994, only eight months after I became FCC chairman. From July to November, we conducted auctions of smaller blocs of spectrum. These were important and complicated processes but only test runs for the big auction that created the market structure and initial firms for digital cellular.

The big one was Auction 4. It was all virtual. (No major auctions had ever been conducted online before.) It began on December 5, 1994, and closed March 13, 1995: 18 bidders won 99 licenses for \$7 billion.¹⁹ Those 18 winners were the first entrants in the race to build the digital cellular industry. We printed a facsimile of a \$7.7 billion check (adding all

the auction revenues to date together) on a piece of cardboard about six feet long and three feet high and presented it to President Clinton and Vice President Gore.

This was the biggest sale of public property in history. Despite our many market-shaping and pro-competitive regulations, this fact alone caused us to be perceived as conservative, even libertarian. That perception was integral to the FCC obtaining the many roles that the Telecommunications Act assigned to it. Speaker Newt Gingrich did not shut down the agency.

The Bell companies had been given analog licenses for free more than a decade earlier. They had about 60 percent of analog wireless customers, and because of the high cost of wireless devices, these customers were likely to be wealthy enough to become the first buyers of digital phones. The Bells also had nearly 100 percent ownership of landline phones. They had ample capital. They were sure to win spectrum in the auction, and of course they did. However, if they could buy most of the spectrum sold in auction, then with these other advantages they could dominate digital cellular. It would never be a competitive market.

Designing the auctions and the industry rules to overcome these advantages was our task. With Ross-
ton, our deputy chief economist, leading the thinking, we brought in game theorists like Paul Milgrom, future winner of the Nobel Memorial Prize in Economic Sciences, among many other experts. Our goal was to make sure that the rules in the industry gave new entrants a fair chance to succeed. In particular, it was critical that the Bells would not have the opportunity to buy a monopoly or oligopoly position by throwing money at the opportunity. On the other hand, the auction was supposed to raise more money. And eventually young talent like John Levin (future president of Stanford) and our extraordinarily able staff implemented the plan through auction design and other regulatory moves. It had five major features:

1. We would sell adequate but limited amounts of spectrum in every market so that there would be at least five and up to seven winners. The amount one firm could buy in any market was

capped. Firms bought the ticket to compete—the spectrum—in the geographic markets they chose. No one could or did buy a monopoly. In every geographic market the structure was competitive. Later, we allowed mergers to create regional or national firms, but we maintained caps on spectrum ownership to assure competition.

2. All the new digital cellular companies would get plenty of phone numbers. The Bells' hold on numbers would be broken.
3. The auction methodology—the simultaneous multiple round auction (SMRA)—raised the smallest total amount of money to obtain an efficient outcome. The SMRA method was adopted globally and facilitated efficient competition in many other markets.
4. We reserved some spectrum for unlicensed use. This ran counter to the goal of the empowering statute, which was to raise revenue. But we felt that new firms with new technologies would take advantage of free spectrum that they would not be able to use exclusively but instead would have to share. This proved to be the genesis of Wi-Fi networks, and these networks, as everyone in the United States experiences routinely, enabled the computer and then the smartphone to be disconnected from a wire yet still connected to the internet.
5. Later, we had to decide the price a wireless company would pay a landline company to place a call to any landline customer. When hardly anyone had a digital phone and almost everyone had a landline phone, this was a critical issue. Not before the first auction but later, we set the price very low, approximately one-tenth of a penny a minute. The huge network effect of owning all the homes and businesses that might be called before digital cellular had won its own market share was transferred at almost no cost to all the new digital cellular firms. (To protect

state-owned landline telephone companies, European nations did not adopt this principle. As a result, their wireless deployment tended to be dominated by the old landline companies and went slower, and they lost the opportunity for leadership, which was seized mostly by American firms using the new wireless platform for many creative new purposes.)

The goal was to have all the firms launch their businesses at about the same time and then race to build networks and acquire customers. It was the Oklahoma Land Rush, the race to build the transcontinental railroads, the pell-mell contest of enthusiastic entrepreneurs. That is pretty much what happened. Money poured into this activity from around the world. One new firm, now called T-Mobile, eventually proved to perform the best of all the new digital companies.

The FCC's authority to regulate wireless was vast, virtually unbounded. We could have set the retail prices for the service. We chose not to do that. Analog cellular had been provided by two firms in every geographic market, and they had kept prices high and roughly the same, choosing in addition to mulct customers for extra revenue if they roamed outside their territory. (The fundamental advantage of wireless was travel: You could take your phone with you. Yet that market structure penalized customers for traveling away from their home city.)

Our view was that five firms competing would not be able to agree on price. They could not organize a retail price-fixing conspiracy even if any had been so inclined. If they were racing to win customers and use the revenue to support debt that built more networks serving more customers, then the famous invisible hand of the market would set the price. Indeed, it would probably be lower than any regulator would have the acumen or courage to dictate. Our prediction proved valid.

Even better, fairly soon the larger firms offered bundles of minutes—the customer could use the minutes to call anywhere from anywhere. That was the end of long distance as a service. It also caused still more incentive to build networks quickly. The more

places a customer could call, the more value the customer would find in subscribing to wireless.

California decided to require cellular license holders to sell service to intermediary firms. We pre-empted California. If intermediaries proved useful for license holders or customers, we bet that the market would support them. Government did not need to require that they be supported, and determining the price to sell service to them would be a backdoor way of regulating prices. We did not want to do that.

The FCC had the authority to dictate the software that would be used for wireless. Europeans and others argued that the standard popularized in Europe, global system for mobile communications (GSM), should be mandated for all countries. This would provide scale for device manufacturers and lower costs per cell phone. The Europeans were right on that point, in theory, and in practice they claimed it was only a coincidence that the European device maker Nokia would become a huge global success if its software standard were mandated everywhere, but especially in the United States.

A rumpled professor from San Diego named Irwin Jacobs shuffled into the FCC chair's office and argued that his standard, code division multiple access (CDMA), could carry more information per wavelength than GSM could. It would cause more services to be delivered wirelessly at a lower price per bit. The FCC decided that standards companies should compete in the market and not at the FCC to see who won.

CDMA, housed at a San Diego firm called Qualcomm, won some adherents in the United States. It had more than one potential buyer because of our competitive model. Ultimately the Clinton trade ambassador won Qualcomm access to the Chinese market, realizing that part of the grand government strategy. Although the standards competition did raise numerous technical issues, they were solved in the market and in research labs. The government did not have to pick a winning software standard or a winning firm to jump-start the wireless market. Ultimately, through generation after generation of wireless standards, the capability to send information improved steadily, and the value of wireless service rose, benefiting firms and customers.

Meanwhile, in 1994 the FCC also rewrote its cable regulations to fulfill the twin purposes of the Cable Act: lower prices and provide competition to cable for the first time. Basic service prices went down everywhere. The cable companies had to invest in new capacity to add channels. That investment ultimately enabled them to be broadband providers as they repurposed their coaxial cable capacity to carry internet traffic. They were not grateful for the stimulus and began lobbying for the act to be repealed.

Implementing the Cable Act, we also told the cable firms they had to share the cable channels they owned (some were vertically integrated) with satellite firms. This created competition for cable from satellite firms. Dishes on roofs offered at least some choice for consumers.

It was a hard and ultimately good year for the FCC and the Gore agenda. But politically the year ended in calamity for the Democrats. The Republicans took control of the House and the Senate. The Democrats had held the House continuously since 1954, two generations and 20 congressional elections.

One casualty was the 1994 telecommunications law. The new Speaker of the House, Gingrich, and the new Senate leader, Bob Dole, wanted to do that bill over. They would favor their preferred industries and firms more and fill the coffers of their campaign committees with contributions from these lucrative supplicants.

1995: Rewriting the Telecommunications Act, Saving the FCC, and Battling for E-Rate

The new Congress immediately began rewriting the 1994 version of the Telecommunications Act. Speaker Gingrich proposed to eliminate the FCC and replace it with a small executive office reporting to the president (similar to what the current president has done). Gingrich met with the industries and asked them what they wanted in the new law. Then one of his allies held a meeting asking them all to contribute to the party's campaign funds.

At the FCC, we did not relish the prospect of being closed down. We also feared the new law would

represent a compact between monopolies and the political party now controlling Congress. That law, too, would not include the E-Rate program.

Our spectrum auctions, however, were a huge success. The idea of selling public property for cash appealed to conservatives and neoliberals alike. Our pro-competition rules for the new digital cellular industry were hardly libertarian, but the new firms competing in the auction liked them. And the Bells did not want to jeopardize the passage of the new bill by opposing the way we were designing the wireless industry.

Then as the long-distance and local phone company lobbyists battled from office to office on the Hill, it also became clear that any new telecom law would be a compromise. Moreover, the president had the veto threat to use if the bill was not at least roughly consistent with the Clinton–Gore agenda. In addition, the bill required an immense amount of detail to put the new paradigm into effect. No small office at the White House could have handled it. Our FCC could do it, and increasingly we had both parties' trust.

Meanwhile, Republican Representative Jack Fields rewrote the bill that would become the 1996 Telecommunications Act. He was no fan of the E-Rate program; it seemed like another big government handout. That was not completely incorrect, although we never talked about its size.

Vice President Gore and Representative Markey (who came into Congress together in the 1970s) persisted in arguing to include E-Rate in the bill. At the agency, with Kornbluh joining us from Senator John Kerry's office to take a leading role, we met with numerous members of the House and Senate, on both sides of the aisle. We talked about the E-Rate program all over the country. Education groups came together to argue for it on the Hill. Thanks to Representative Markey's smart move, the program did not need an appropriation. The language needed only to let the FCC put a charge on the phone bill.

Late in 1995, whether the E-Rate program would stay in or be kicked out of the act came down to a key vote in a Senate–House committee. Republican Senator Olympia Snowe cast the winning vote for E-Rate, joining Democratic Senator Rockefeller to put the

Senate in favor of the program. On the House side, Democrat Markey persuaded Republican Tom Bliley to support it. Senator Snowe extracted a promise from me to explain the E-Rate program to a high school in Bangor, Maine. That was easily given. Bliley's district included a large AT&T office, and he wanted that firm treated fairly. We did that too.

The E-Rate program stayed in the law. And I have a photo of myself with Gingrich wiring a classroom in DC.

1996: Implementing the Telecommunications Act

Even though 1996 was a presidential election year, the Telecommunications Act was enacted in January. As a compromise between the Bells and long distance and between Republicans and Democrats, it won 91 votes in the Senate and 414 in the House. The drivers—Representatives Bliley, Fields, Gingrich, and Markey and Senators Dole, Hollings, Larry Pressler, and Rockefeller—knew the law was important, but for many members, the issues seemed technical. The general deregulatory label meant the Republicans and neoliberal Democrats could agree.

The president signed the bill not only digitally but also with ink pens, using one pen for each part of his signature, thus creating a dozen such pens. Commerce Secretary Ron Brown grabbed one for me, and I have it framed on my wall, in memory of the FCC staff's work and in honor of Brown, who died in a plane crash over Dubrovnik, Croatia, less than two months later, on April 3, 1996.

Speed again was part of our mantra: speed, transparency, and clarity of decision-making. The new law, described by a bipartisan chorus as deregulatory, required the FCC to do more than 100 rulemakings and other agency actions, all pursuant to the Administrative Procedure Act's time-consuming procedures. Editing the rule of law to stimulate competition (open closed markets and create new markets) instead of regulating monopolies was like turning *Anna Karenina* into a romantic comedy, said one of the literary savants on the FCC

team. You had to change the characters, plot, style, and denouement.

The natural effect of lobbying a multimember commission is to drag things out. Therefore, we asked Congress to insert due dates for rulemaking in the legislation itself. This enabled the chair's office to insist that the other commissioners make decisions, not drag their feet. Then we had to announce and commit ourselves irrevocably to a series of actions reflecting the detailed notice and comment procedures of the Administrative Procedure Act of 1946. With the current Supreme Court apparently contemptuous of the efficacy and utility of agencies, perhaps it is futile to point out that we were completely successful in adhering to the act and ultimately were vindicated by the Court in *AT&T v. Iowa Utilities Board*.²⁰

In February, FCC senior adviser Ruth Milkman shocked the Washington lobbyist and communications lawyer (and businessperson) audience when she audaciously described the FCC roadmap. We would decide all four dozen rulemakings within 18 months in a set order. At the end would come the decision on whether to let the Bells into long distance. The opportunity for the long-distance firms to enter local service markets would come earlier.

The essence of the new regulation was that the long-distance companies could buy use of the Bell landline monopoly networks. Defining and pricing that access was the FCC's job. It was immensely complicated and battled over vigorously by powerful lobbyists, and of course all our rules were challenged in the Supreme Court, where the FCC won. Our central idea was to give the long-distance firms time to attack this market while the Bells would have to wait, and comply, to get entry into long distance.

In many additional clauses of the bill, the rate-regulation portions of the Cable Act of 1992 were repealed, but the more important program access rules that enable satellite competition survived. Radio was allowed to consolidate. Of vital importance to the vice president, Representative Markey, the FCC, and the country's schools and libraries, the E-Rate program was authorized.

It took another year after the act to get the classroom and library funding rule in place. For the past

three decades, about \$200 billion has been spent on this public purpose. There has never been a congressional appropriation to this end. The FCC raised the money.²¹

To administer the funds, we created a nonprofit with the anodyne name Universal Service Administrative Company. This reflected the advice from Education Secretary Richard Riley: Do not leave the program at the FCC or put it at the Education Department because if you do, some Congress sometime will kill it. That technique was also challenged, but the FCC prevailed.²²

To implement the whole act, the midnight oil was burned; the FCC ran up huge electricity bills; people worked until they dropped. But the industry got the clarity it needed, save for the judiciary's inevitable interference. And as a result, investment took off.

1997: International Success, Completion of the Act's Mandates, and the Triumph of E-Rate

In 1997 the Trade Office and the FCC completed an agreement among 69 countries as part of the World Trade Organization's rule of law that fulfilled most of Cowhey's goals. At about the same time, Trade Ambassador Barshefsky concluded her goods and services agreement for information technology. The World Trade Organization agreement for which the FCC was principally responsible included an agreement on regulatory principles for the signing countries. This sort of reconciliation of ideas—adoption of a common strategy—would be ideal for AI deployment on a global level.

In our case three decades ago, we agreed to open our markets reciprocally with the market-opening moves of other countries. This could be labeled “free trade,” but it was not so much the absence of tariffs as the agreement to think alike in terms of governance and regulation that expedited the spread of the internet and digital cellular, as well as all the follow-on businesses, like the iPhone, everywhere in the world.

We completed everything the act mandated by May 1997. This was probably about two or three years earlier than the industry had expected. As a result, the

affected firms made their business decisions more rapidly than they had expected.

An especially gratifying success was the rulemaking and other actions that transmuted E-Rate from legislative authority to an operating system. Because we had made it a priority, the telephone industry chose not to oppose it. It had bigger fish to fry. As a result, we succeeded in raising the E-Rate money by imposing a charge on telephone bills. It was progressive, roughly; the more someone spent on calls, the larger the charge imposed on them.

The congressional sponsors stayed involved in the process, especially Senator Rockefeller. The education and library communities argued forcefully for adequate funding. McKinsey wrote a helpful report. President Clinton supported the program of connecting every classroom to the internet in a commencement address. We rejected pressure to pay 100 percent of internet access cost and obliged schools and libraries to put some of their own funds (skin in the game) at stake in the contracts they wrote with providers. A joint board of state and federal officers was involved in the decision. (The federal government always does well to include states in major programs.) The supportive state vote immediately followed President Clinton's reelection, which was no coincidence. The final rule was completed early in 1997.

Ira Fishman led a terrific FCC team through this more than one-year effort to enact the rule. He then set up the nonprofit we used to administer the program. Years later, Chairman Tom Wheeler expanded and improved the program. Within a few years after the program started, more than 90 percent of all classrooms had internet access.

In total, from state and federal sources, about \$200 billion has been spent to make sure that no teacher, student, librarian, or library user lacks internet access. Other than the program to provide hot lunches in schools for low-income students, this is the single greatest spending by a federal program in education.

In the summer of 1997, AT&T decided to give up. It proposed merging with Southwestern Bell. Noting that AT&T had promised for all the previous years of the decade to compete with the Bells, I as the FCC chair called the merger “unthinkable.”²³ It was called off.

AT&T got a new CEO, Mike Armstrong. He bought most of the cable firms in the United States but unfortunately decided to use them to provide voice service. The right answer was the one that had also escaped Malone: Use them to provide the internet. Armstrong bought cable at a high price with borrowed money, suffered a drop in stock price along with the 2000–01 downturn, and sold cable firms mostly to Comcast. Ultimately, in the Bush administration, Southwestern Bell bought the residue of AT&T for a tenth of the price of the original merger.

AT&T also made the mistake of spinning off its wireless business. The Bells meanwhile rapidly consolidated, ultimately producing the huge firms of Verizon, originally New York Telephone Company, and AT&T, born as Southwestern Bell.²⁴ We at the FCC urged the Department of Justice to limit the consolidation of the Bells, but it was focused on suing Microsoft. The agency could not see why merging geographic monopolies into larger geographic monopolies posed a risk to competition. We argued that the resulting firms would have huge competitive advantages in acquiring products and marketing. We could not persuade the antitrust division.

Meanwhile, the leaders of the consolidated Bell system knew the future was wireless. Their reinvention of their firms as national wireless carriers instead of local landline voice firms stands as the largest and most successful change in business purpose and function in American business history and perhaps global business history.

This was very much part of our plan. We wanted big winners. We did not want to pick them. In other words, we purposefully picked winning industries but not winning firms in industries.

Looking back, anyone has to agree that one specific purpose of the statute—to let two separate industries take some of each other's share—did not happen. But the FCC did not hold up the vertical integration of local Bells with long distance until AT&T could win a third or half or some other arbitrary portion of local customers. That would have been too much stage management of the actors by the show's producer. The other specific purpose—to let the telephone companies into the cable market and vice versa—was

achieved. As an example, many households now can choose between Verizon Fios and Xfinity by Comcast for broadband.

Instead, we implemented the spirit of the act: Let competition produce winners. The long-distance firms did not succeed in this effort. Really only AT&T even tried, and if it had bought cable in 1994 after rate regulation had temporarily depressed stock prices, it might have succeeded. But time and change did not favor AT&T.

Fantastic Outputs

The single most important aspect of the 1996 Telecommunications Act was that it substituted, for the most part, market forces for a regime of judicial and agency regulation governing communications technology. The computer industry, including both hardware and software, had long before benefited from the lack of regulation. Communications, however, had been intensely regulated at the state and federal levels since the 1913 Kingsbury Commitment.

As the national monopolist for both local and long-distance telephony, AT&T could not go out of business. More importantly, it did not need to innovate, create new lines of business, or be increasingly efficient to reward its shareholders and comply with government regulation. The 1996 act ended this government-encouraged complacency forever.

The FCC had a great deal of political support from entrepreneurs and technology firms. This was long before the “broligarchy” came into being. Backed by venture money and then large Wall Street firms, businesses seemingly all from Silicon Valley created competition and Schumpeterian creative destruction in many markets. The act's general deregulatory spirit coupled with the FCC's specific market-creating actions produced huge investment, innovation, and animal spirits in the stock market too. The government strategy did require making big bets, and we placed them on the computer network we call the internet, or the web, coupled soon enough with digital cellular. If the bet was wrong, business failures in the market would show that. If right, business successes

would accrue to the general benefit of the national and global economy.

Core to this approach was the strong belief that markets can better drive productive change than can micro-regulation. But we also thought regulatory intervention grounded in a larger strategic vision can help structure markets correctly. That intervention is critical to maintaining competition because increasing returns to scale in technology can tend to create dominant winners, which can slow or eliminate new competitive threats from new forms of innovation.

We also believed that markets alone do not deliver all the public benefits that a technological revolution can enable. To this end, we battled for and succeeded in executing our E-Rate program. Thanks to the FCC and a legion of supporters in education, libraries, and the private sector, we were able to get the internet into nearly every classroom and library in the country. As a result, the internet from its earliest commercial days was available to rich and poor alike at about the same time. That had not happened in education since the introduction of chalk.

The measurement of success for us in the '90s was output and consumer impact. We wanted more production and more sales of many things: personal computers, digital cell phones, fiber-optic cable, software, and content from many sources (including news and entertainment, but not just network television or local newspaper monopolies). And we wanted consumers—real people, working people, voters—to pay less for more. To pay less in terms of getting more value per dollar when buying a personal computer. To pay less per channel in the cable bundle of channels. To feel that the world was their oyster and things were getting better every day.

Figure 4 shows the cost reduction in televisions and cellular service that occurred.

The technology boom in the United States caused real income to go up for every income quintile. That had not happened for the previous three decades. Burgeoning revenue led to a balanced federal budget in the last two years of Clinton's term. Comparing GDP in 1997 with GDP in 1999, the United States' growth accounted for essentially all net global

economic growth.²⁵ The American economy grew continuously from 1991 to 1999, the longest such growth in the country's history at that time.

Not only did America lead in wealth creation, but it also inspired ideological imitation. Capitalist democracy swept across the planet. By 2000 the majority of the world's population lived in democracies, for the first time in history.²⁶ The cell phone and internet networks wrapped the world. Now six billion people have mobile devices and internet access.

The global digital medium is by no means safe or grounded in reality everywhere. But it did enable the development of lifesaving vaccines to reduce drastically the COVID death toll. It is still the way all the people of the world can together address global problems.

During the Clinton-Gore administration, Gore used to say, "Everything that is supposed to go up is going up and everything that is supposed to go down is going down."²⁷

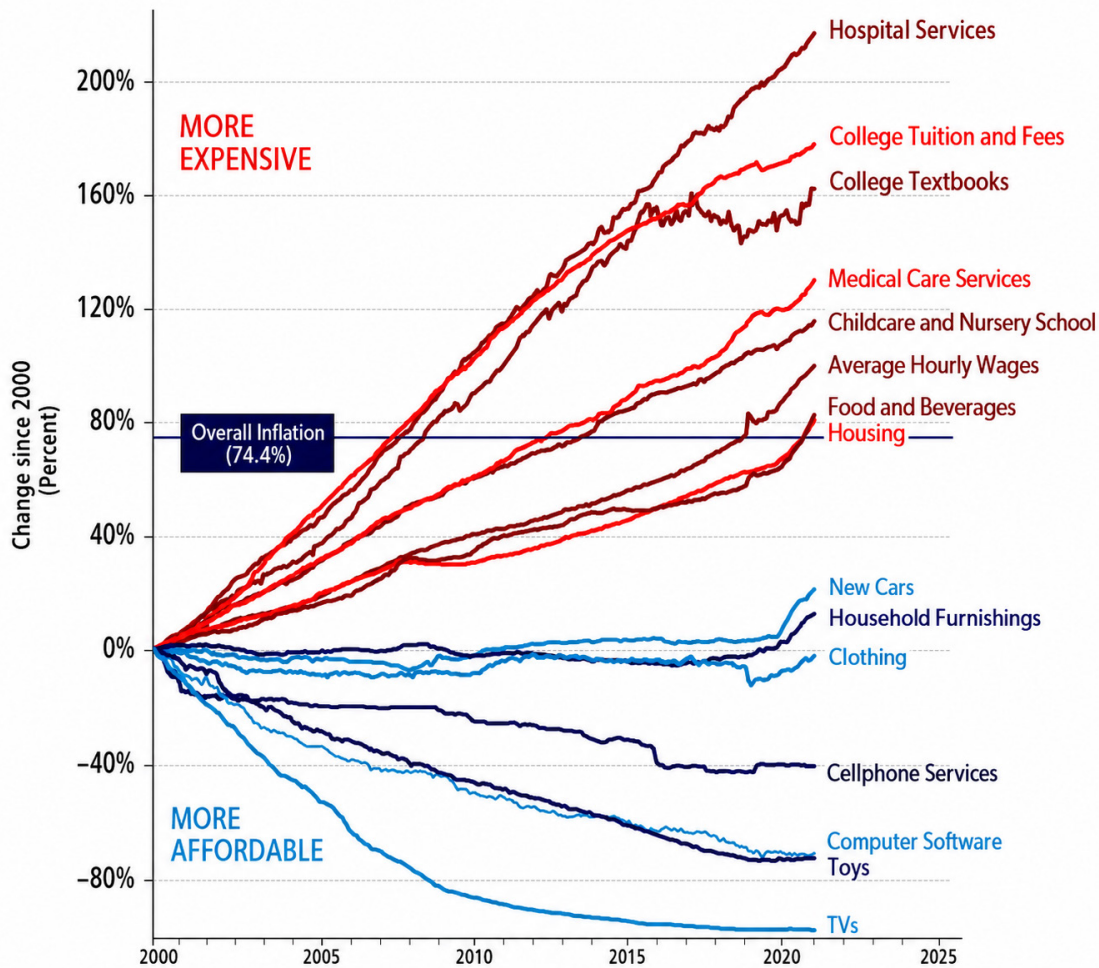
As we hoped, the United States led the world in change. Most saliently, the United States was the early adopter of the internet (Figure 5).

It Was the Team

A major part of our success was operational. At the FCC, a bipartisan agency, nearly every vote on every issue was unanimous for four years. The Clinton administration appointed only two of the five commissioners from the ranks of supporters, Susan Ness and me. To get a majority of five commissioners, we had to be bipartisan. It was also important to be bipartisan to defend against judicial review, which often used conflict between commissioners in writing to overturn agency decisions. None of us wanted our work canceled by judges with strong predilections (and smart but small and nontechnical staff) who thought they could read the statute and do our rulemaking better than we could.²⁸

Critical to bipartisanship, from the perspective of the chairman's office, was the reliance on expert staff to formulate and present rulemakings to all the commissioners in a steady, deliberate manner. The

Figure 4. Price Changes in Selected US Consumer Goods, Services, and Wages, January 2000–June 2022



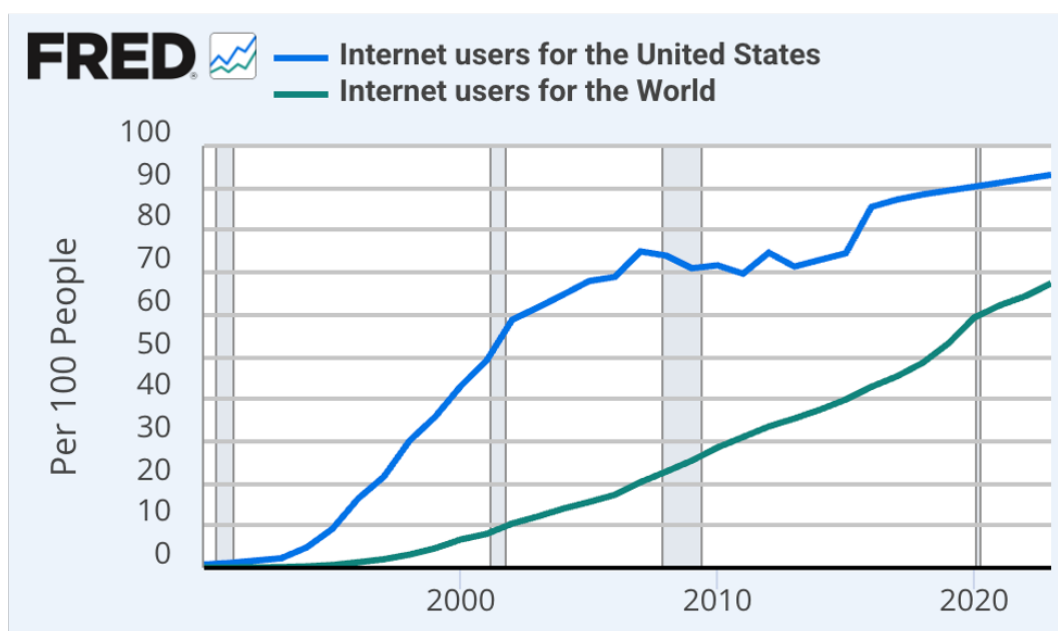
Source: Mark J. Perry, "Chart of the Day . . . or Century?," *Carpe Diem*, July 23, 2022, <https://www.aei.org/carpe-diem/chart-of-the-day-or-century-8/>; and US Department of Labor, Bureau of Labor Statistics.

commissioners might have been willing to disagree with the chair for political reasons. They were less willing to differ with the agency staff.

The FCC staff was perhaps the finest or one of the finest collections of talent that any agency ever assembled. The president of Yale, many business executives, numerous academics, and many senators acknowledged that the FCC staff was brilliant and, more importantly, extremely hardworking and fair-minded. With no disrespect to the chair or commissioners, "the staff" means all temporary and permanent hires, whether holding civil service grades or

temporary appointments, but does not include the Senate-confirmed positions.

It's important to acknowledge careerists whom the Clinton–Gore team met at the FCC and who became leaders of every initiative from 1993 to 1997. These included Jay Atkinson, Jackie Chorney, Evan Kwerel, Elliot Maxwell, Ruth Milkman, Robert Pepper, Tom Power, Mary Beth Richards, and Gerry Vaughn. They were joined by many who learned from and with them. Among these were Larry Atlas, Tom Boasberg, Karen Brinkmann, Michael Buas, Ruth Dancey, Ira Fishman, Julius Genachowski, Don Gips, Judy Harris,

Figure 5. Internet Users per 100 People, United States and the World


Source: Federal Reserve Bank of St. Louis, "Internet Users for the United States," updated April 14, 2026, <https://fred.stlouisfed.org/series/ITNETUSERP2USA>; and Federal Reserve Bank of St. Louis, "Internet Users for the World," September 19, 2024, <https://fred.stlouisfed.org/series/ITNETUSERP2WLD>.

Note: Shaded areas indicate US recessions.

Meredith Jones, Gina Keeney, Bill Kennard, Karen Kornbluh, John Logan, Kim Malone, Jay Markley, Richard Metzger, John Nakahata, Jon Nuechterlein, Gretchen Rubin, Jamie Rubin, Susan Sallet, Andrew Sinwell, Kathy Wallman, Karen Watson, Kevin Werbach, Chris Wright, and of course the ringleader, Blair Levin. On the Hill, leaders included Gerry Waldron and Colin Crowell.²⁹

Two members of this group became FCC chairs. Two became ambassadors.³⁰ Many gained prominence in government, academe, and business activities in the decades that followed. Two even made the bestseller lists and sold millions of books. (The chair and chief of staff separately and together wrote books that in the aggregate may have sold a couple of thousand copies.)

Another key to operational success was that we kept everyone busy—those in Congress with jurisdiction over the agency, the watching public, the lobbyists, the commissioners, the news reporters, everyone. To that end, in addition to the grand

strategy, we had other successes: children's television, coordination of hearing aids with cell phones so the hard of hearing and deaf could make cell calls, and many other things. We thought these moves were all in the public interest (always being aware that the public interest has little effect without private investment driving the ultimate outcome). But in addition, by expanding our range, we enlarged our reputation for getting things done, and we kept the pressure on the other commissioners to make decisions. Particularly in bipartisan bodies, idle hands are the devil's opportunity—where the devil comes in the shape of industry lobbyists.³¹

Our plans also included purposefully creating new services for users that lacked the ability to pay what businesses and most consumers would pay. These included low-income households, libraries, public and private schools, the hard of hearing or deaf, and Native Americans. The pressure of all these initiatives helped hold us together as a team.

By taking on many issues, we developed many constituencies. Listening and responding to them became a core operational principle for us. In doing so, we demonstrated to the American people that they could trust an institution to serve the public interest.

Unhappy Surprises

A big unanticipated outcome of the internet's widespread deployment was that social media dominated the platform. These firms should have been subjected to a national regulatory regime. Instead, their negative effects have gone unaddressed.

The problem was Section 230 of the Communications Decency Act of 1996, incorporated in the 1996 Telecommunications Act. It immunized social media from litigation (to make a complicated story brief). Its purpose was to encourage participation by anyone and everyone in the emerging virtual world of the internet. The road to legislative hell is often paved with new inventions.

The business model and algorithms of Facebook and Google aggregated the commentary that Section 230 imagined individuals would post on the virtual walls of the internet. It came to pass that opinions, facts, cons, scams, and cruelty composed the internet's content. Our favored technologies had neither improved nor worsened human character. They had made it more manifest—and at scale.

The companies themselves, however, had escaped responsibility for how their sites were used. They should have had the mediating role, which newspaper editors and broadcast television executives played back in the day. Litigious victims or social pressure might have imposed that role on them.

Section 230, instead, gave these firms permission to run rampant through the consciousness of everyone in the country, including children. It should have been repealed. Even better, it should have granted regulatory power to the FCC for constraining the use of algorithms. At the least, social media firms should be required to protect children. Arguably, the FCC could have invoked Title 2 of its regulatory authority to impose safeguards on the way social media enables

content to affect children. This issue is not going to disappear, and it is regrettable that our strategy did not foresee, or include the ability to adapt to, social media's negative effects.³²

A second unanticipated result was consolidation of markets, or the failure of consolidation to dissipate in the wake of near-universal action. As Ted Gioia has explained in *The Honest Broker*, three decades into the communications technology revolution:

- Four movie studios control Hollywood,
- Four subscription platforms attract two-thirds of home movie streaming,
- Three record labels own most popular songs, and
- One firm controls more than 60 percent of the American audiobook market.³³

According to the Pew Research Center, 84 percent of adult Americans use Google's YouTube, and Meta attracts 71 percent of adult Americans to Facebook and 50 percent to Instagram. No other platform attracts as much as 40 percent of adult Americans as users.³⁴

We expected that the low cost of creating content and transmitting it online would inevitably lead to self-perpetuating competition and preclude monopoly shares from being created in any market, including the market for attention. We did not anticipate the effects of Metcalfe's law: Value equals the square of the number of users. In other words, the more users there are on one side of a two-sided platform, the greater the platform's value to its owners and especially to the other side.

When many people carry a Visa credit card, stores will pay fees to Visa for participating in its payment process. When many people watch YouTube or look at Facebook or Instagram, advertisers pay a lot to Google and Meta for the right to put their ads in front of people. These two-sided platforms, giving access for free to users and charging advertisers for access, showed Metcalfe's law in practice and became hugely

valuable but also dangerously powerful. Antitrust, to this date, has not developed the theories or shown enough rigorous application of theory to the problems of consolidation in the digital age.

The problems of Section 230 and consolidation could repeat themselves in the AI world to come. When AI agents post on websites, will their creators invoke Section 230 immunity? If AI leads to consolidation in the attention market or in the sale of AI services, will antitrust law be sufficiently powerful to defeat claims that one or two AI firms suffice to serve us all, even if they extinguish rivals and dominate our consciousness?

A third surprise for us was the magnitude of the stock market boom of the 1990s. It is one thing to trust the market. It is something else to be indifferent to its irrational and inevitable impulse to overinvest, oversell, and overdo every new thing. The boom of the '90s comprised overinvestment in computers, software, fiber-optic cables, telecommunications infrastructure, and the stocks of companies involved in these activities. In the aggregate, the investment was a smaller fraction of the American GDP than railroad investment and about the same as artificial intelligence, which is well on the way to setting a record that far surpasses the communications technology boom. The stock market peak was in March 2000. If it had been reached in December 2000 or later, Gore would have been the president in 2001.

The FCC's creation of new markets and opening of closed markets contributed to the boom. The internet, wireless, PC, digitization, fiber, and microprocessor innovations collectively called for huge increases in capital investment, dramatic changes in business plans, world-changing venture capital investments, millions of new businesses (literally), and enormous changes in workforce composition (think of coding alone, for example) and training. The vision was shared by hundreds of thousands of entrepreneurs, seasoned executives, sophisticated investors, and the FCC. The money came pouring in.

However, the stock market suffered from, as Alan Greenspan put it, "irrational exuberance."³⁵ That was manifested most dramatically in a widespread belief by the late 1990s that the volume of internet traffic

was doubling every three to six months. This proved wrong; 12 months was more accurate.

When reality began to intrude on investors' animal spirits, revenue expectations were adjusted. Some businesses could not pay their debts. Others saw their value plummet. Investment then dropped. The downturn happened.

A similar scenario in the housing market occurred during the Bush administration's lax regulatory regime, roughly from 2006 to 2008. The calamitous financial crash of September 2008 resulted because of the huge role housing investment plays in the overall economy.

The same scenario—aggressive growth assumptions that prove unreal—may occur for AI companies. No one knows whether AI solutions will be adopted with the speed and scale required to reward the massive investment in data centers, software, and implementation. If adoption rates are now being exaggerated, the downturn in the affected firms' market value could be sudden and severe.

Could the FCC have postponed the boom's peak or lessened its size? Certainly not on its own. If it had acted more slowly and discouraged investment, the country and the world would not necessarily have been richer or happier. Nevertheless, it would have been better if more people in government had tried to reduce the size of the boom or acted more prudently to mitigate its effects. This lesson applies now to AI. It would be good to have an agency in government focusing on the topic now.

Conclusion: The Past Should Be Prologue

The FCC in the 1990s proved at least to itself that hardworking people can do honest, smart work in government with good intentions that are mostly realized. To this end, it was critical to have a functioning organization with expertise in economics, technology, law, and business. That organization needed to be dedicated to the public interest. It also had to be the glue that held together in common purpose all three branches of the unwieldy divided government designed by our serviceable but awkward

18th-century Constitution. In short, it was an independent agency.

That organization—the FCC—not only established a rule of law but was governed by one. It could enact rules only by adhering to the Administrative Procedure Act. That dictated a process of proposal, comment, listening, written decision-making, and judicial review. This was a time-consuming process that required of the agency listening and discussion, as opposed to decisions secretly arrived at and peremptorily announced. As opposed, in other words, to executive action. It was a good way to proceed, and although mistakes were still made, they were reduced in number and scope. This process militated against enormous errors.

The process also supported norms. These are the web of expectations, assumptions, and behavioral patterns of the past that governed our conduct. We did not feel hampered by the precedent of norms—we felt it helped make all stakeholders understand how to participate in the progress to which we were all committed.

The FCC, the relevant actors in the legislative and executive branches, and the many stakeholders in the private sphere had to embrace a strategy. For many topics, our agency needed to explain it. Endless explanation is the key to leadership, and in speeches, meetings, and innumerable conversations, we were always trying to name the goals, describe the complications, and elucidate what we thought were the right resolutions. Again, none of this precluded error, but it all helped us do mostly the right thing most of the time with mostly good results.

Outcomes had to be measured and examined constantly with the goal of reconsidering and adjusting the strategy as needed. The quintessential example of this for our story was the National Broadband Plan that Blair Levin created for the FCC in 2009–10. That involved reviewing what the '90s strategy had intended, identifying failures, and defining a new strategy that learned from experience and considered significant changes in technology and society in the intervening years.

Currently, there does not appear to be any government organization comprehensively addressing the obviously enormous technological innovation of

artificial intelligence. Missing from the picture today is a group of talented people conducting a transparent process to define the public interest. No such group has the authority to write regulations. The norms are ambiguous or lacking; mostly, the smartest people in the world appear to be committed almost entirely to becoming hugely rich, with the consequences of their wealth accretion ignored by them and everyone else in government.

Why should there not be an Artificial Intelligence Commission with a bipartisan composition and a statutory remit? Some, maybe many, in this time of the left and right loathing defenseless government may react violently even to the mention of such an institution.³⁶ A big problem is the dramatically different culture of the technology sector compared with its culture three decades ago. To quote Josh Marshall from *Talking Points Memo*:

We start with the fact that the Silicon Valley of 2024 (set aside what happened last year) is vastly different from that of 2004. Wealth and power are both highly concentrated and platform monopoly is the dominant business model. From 2023 to 2025 you had big parts of Silicon Valley move decisively into the camp of the global authoritarian movement.³⁷

Nevertheless, the case for an Artificial Intelligence Commission is not weak.³⁸ Here are nine reasons for creating such an agency.

First, AI might manipulate minds (so that we cannot know what is real and what is not), increase the dangers of social media addiction tenfold, build viruses that make past pandemics look like the common cold, and escape all human agency. Consider the title of a book by Eliezer Yudkowsky and Nate Soares: *If Anyone Builds It, Everyone Dies*.³⁹

Given this worry list, the right move is to organize expertise in a government agency charged with defining and assuring that AI advances the public interest. That agency should work with both the legislative and executive branches and with state government, the private sphere, the academy, nonprofits, and the public at large.

It is particularly important for the stewards of the public interest to recognize that in the American system, at least as it was constructed three decades ago, the power of private capital is vastly greater than the effect of government regulation. We should not assume AI will have bad effects, but we should have an agency thinking about the issues.

Second, the reaction to the end of the communications technology boom in 2000 was for government to make two blunders in a row. First, the Clinton administration should have distributed the budget surplus early in 2000 by sending checks to every household and funding childcare through tax credits. This would have elected Gore. If that seems too political, it simply would have mitigated the downturn. Second, George W. Bush's tax cuts of 2001 and 2002 contributed to the rising deficit even now burdening the American economy.

We should learn from that experience. Again, we have a boom. This is obvious. According to Jason Furman of Harvard, investment in information processing equipment and software is 4 percent of GDP but accounted for 92 percent of GDP growth in the first half of 2025. GDP excluding these categories grew at a 0.1 percent annual rate in the first half of 2025.⁴⁰ What cannot continue forever eventually stops. Best guess is that 2026 will be another AI-driven growth year. But when it all does slow down, then what? Let us have some people thinking about the response in advance.

Third, technological revolutions always have a major impact on employment. The communications technologies eliminated many jobs in many fields. While employment in software publishing, data processing, and internet publishing grew, employment in newspapers, broadcast television, landline telephone network maintenance (the Communications Workers of America did not enjoy the boom), and many other fields declined. (See Figures 6 and 7.)

Similarly, AI could reduce the number of people employed in various important job classifications. Guesses vary dramatically, but threatened sectors include data entry, processing, manufacturing, assembly lines, customer support, coding, and many others in which repeated motion and limited information

exchange make artificial intelligence a plausible substitute for people.

Current estimates of AI's impact on job displacement and automation range from the troubling—Forrester predicts that 3.4 percent of US jobs will be lost to automation by 2030—to the catastrophic—McKinsey estimates that up to 30 percent of hours worked across the US could be automated by 2030. (See Figure 8.) Roman Yampolskiy, a University of Louisville computer science professor, suggests that “in five years . . . we're looking at a world where we have levels of unemployment we've never seen before. Not talking about 10% unemployment, which is scary, but 99%.”⁴¹

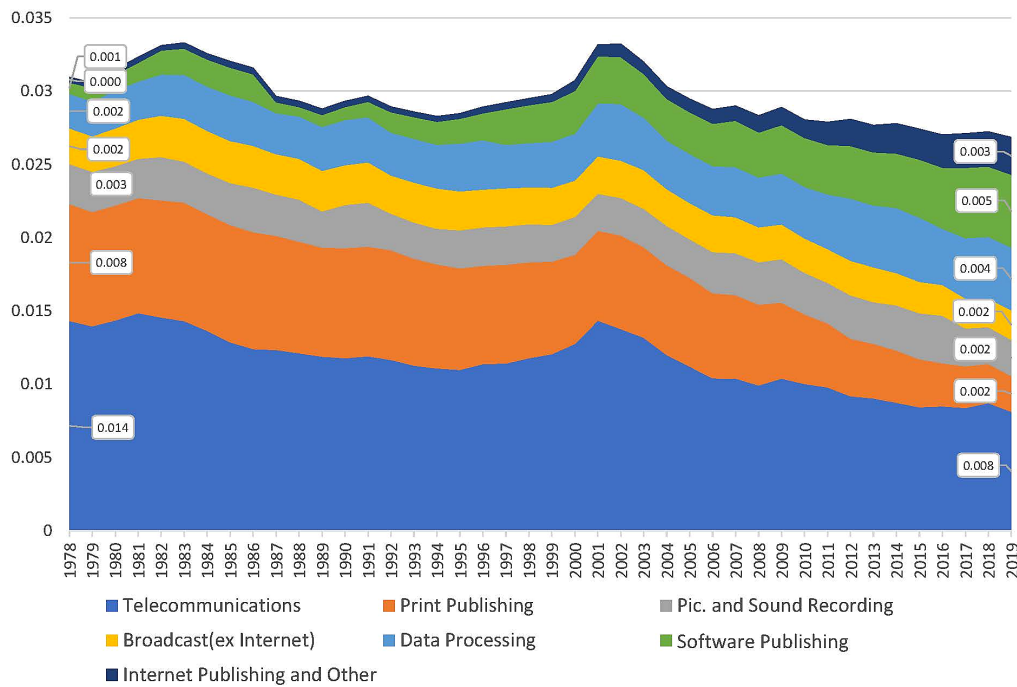
Regardless of the unemployment outcome, AI promises to have a large impact on the nature of all employment. Right now, a department or agency of the national government should be planning the retraining necessary for those who may be thrown out of work. Colleges and universities should be examining their courses and investing in faculty to teach what will be useful for work that AI will need humans to do.

Fourth, the FCC was the first government agency to have a website. Quickly all governments went online. Over time, many government functions became much easier for people to use because they took advantage of the internet.

AI surely will have a similar impact on government functions. Perhaps total government employment can be reduced. But many issues other than the size of government must be thought through. Here are three:

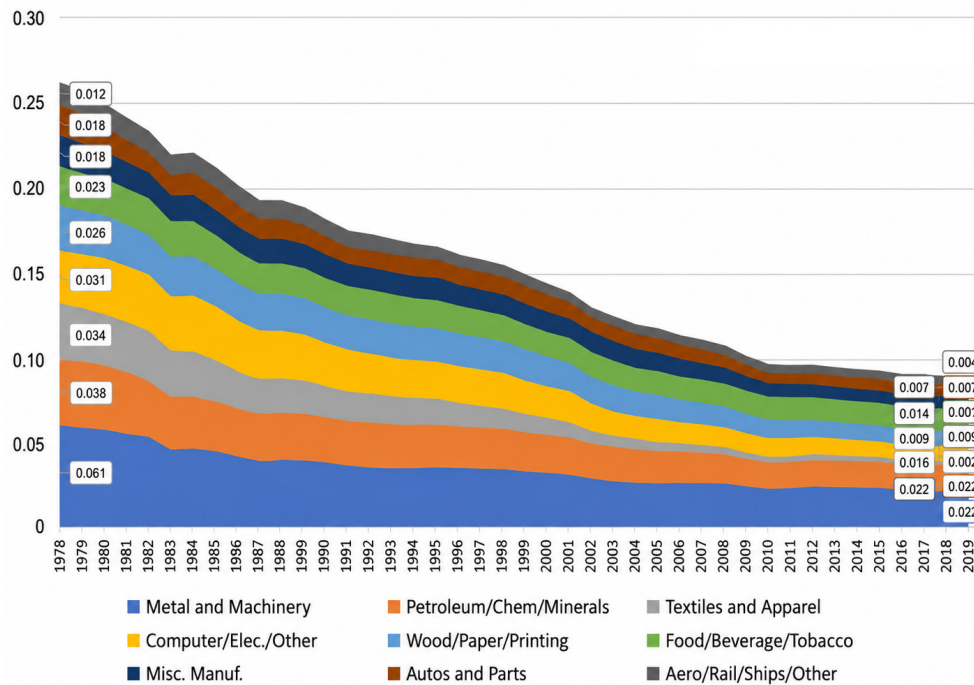
1. All government can be thought of as the creation and management of structured databases. Should these data—who votes, who pays taxes, where people live, who has broadband, and so on—be made available to AI firms? For free? Or should government itself have an AI capability, purchased at auction or self-developed, that examines its own data?
2. American data could be shared with AI researchers in other countries, or alternatively, the United States could seal hermetically the data from government or even its entire digital

Figure 6. National Employment Shares in Information, by Subsector, 1978–2019

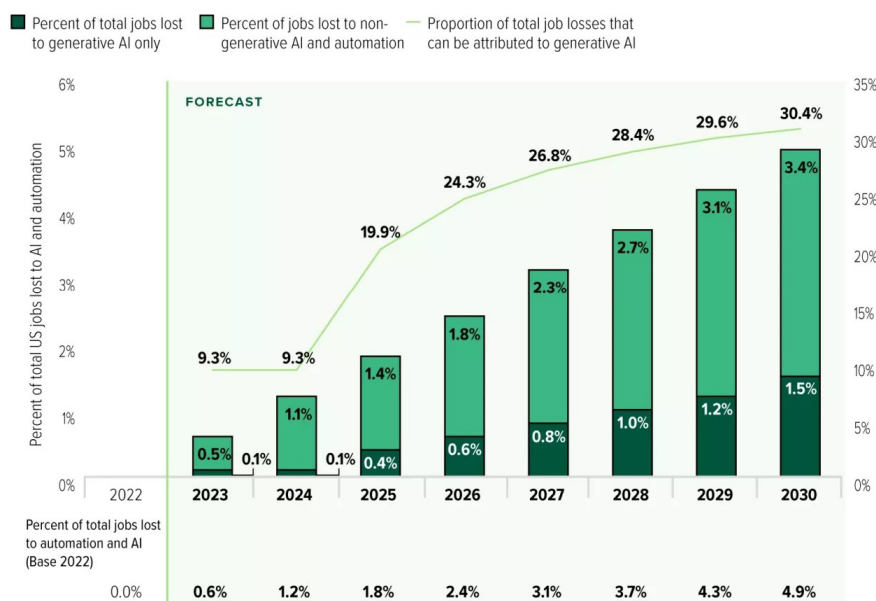


Source: US Census Bureau, "Statistics of U.S. Businesses Datasets," June 3, 2025, <https://www.census.gov/programs-surveys/susb/data/datasets.html>.

Figure 7. National Employment Shares in Manufacturing, by Subsector, 1978–2019



Source: US Census Bureau, "Statistics of U.S. Businesses Datasets," June 3, 2025, <https://www.census.gov/programs-surveys/susb/data/datasets.html>.

Figure 8. Percentage of Total US Jobs Lost to AI and Automation, 2023–30


Source: Rob Thubron, “Generative AI Expected to Replace 2+ Million US Jobs by 2030, Those with Higher Education and Wages More at Risk,” *TechSpot*, September 8, 2023, <https://www.techspot.com/news/100085-generative-ai-expected-replace-24-million-us-jobs.html>; and J. P. Gownder et al., *Forrester’s 2023 Generative AI Jobs Impact Forecast, US*, Forrester, August 30, 2023, <https://www.forrester.com/report/forresters-2023-generative-ai-jobs-impact-forecast-us/RES179790>.

experience, keeping it from the rest of the world as if it were a precious natural resource. What is the right answer?

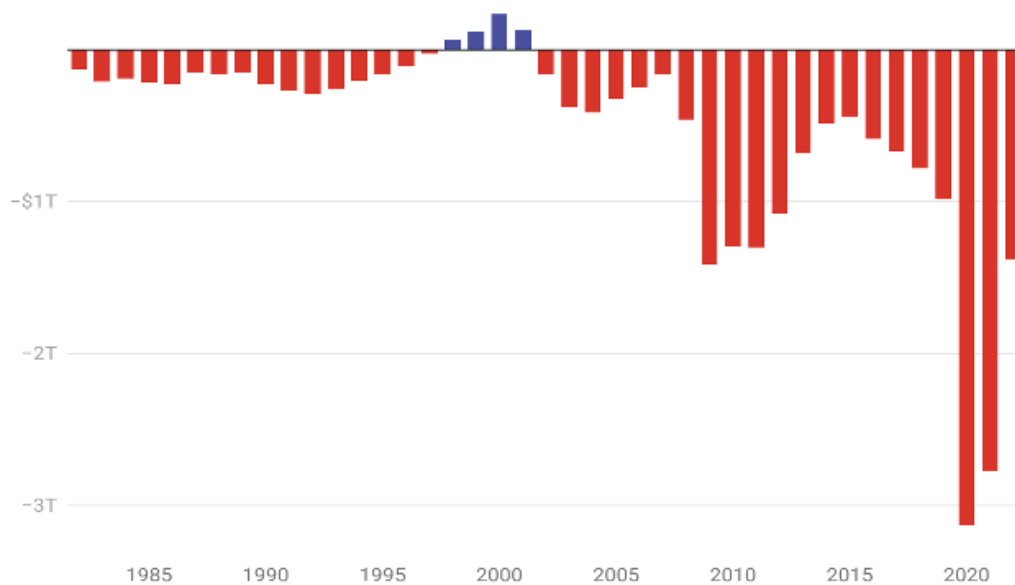
- How should government tax and spend in an AI-infused society? If agents replace humans to some extent in buying, selling, investing, and owning things, then is it possible to embed taxation of agents in AI solutions? Maybe there is a way to reduce the IRS’s role in people’s lives without lowering the government’s ability to raise revenue.

Fifth, coping with AI’s effects may require new federal spending. The budget surplus at the end of the Clinton administration that stemmed from the communications technology boom gave the government substantial capability to address needs (Figure 9). Currently, however, the federal government faces a deficit of some magnitude. Moreover, the Congressional Budget Office forecasts that the latest reconciliation

bill will increase federal debt by \$3.4 trillion over the next 10 years. Someone in Congress and the administration will need to address this issue.

Sixth, antitrust is a topic that mattered in the 1990s and is likely to matter with AI. In the 1990s, radio, telephony, and other industries went through dramatic consolidation. The question of how many major wireless firms should compose the American market occupied antitrust authorities for many years. Currently, AI-based firms are numerous in many markets. Not all will survive. Either a new or an existing agency should apply prudent antitrust policy to the inevitable consolidation.

Part of the shakeout will involve access to data centers, with their vast array of server chips and banks of memory. The ’90s teaches that government should not intervene prematurely to address what may appear to be bottlenecks. But neither should government be unaware of or unconcerned with consolidation that stifles entrepreneurship and innovation. As previous pages have shown, the strategy three

Figure 9. That Rare Budget Surplus

Source: Linda J. Bilmes, "I Helped Balance the Budget in the '90s. Here's How Hard It Will Be for Republicans.," *Kansas Reflector*, February 3, 2023, <https://kansasreflector.com/2023/02/03/i-helped-balance-the-budget-in-the-90s-heres-how-hard-it-will-be-for-republicans/>.

decades ago was to open bottlenecks in which competition could flourish. This should guide government action as AI expands its scope and scale.

Seventh, many new technologies create major infrastructure issues. The FCC's plan for the rollout of digital cellular included preempting state regulation and supporting national networks that shared cell towers. Not all communities welcomed these new objects in the landscape, but because tower companies (a new creation in communications) carried multiple antennae, the number of towers was smaller than it might have been. The infrastructure issue for AI is data centers.

Electricity could be provided to data centers more quickly and cheaply if the national government had a plan similar to the one we had for the rollout of cellular networks. The plan could lead to a law and the delegation of regulatory power that would expedite new generation, interconnection to the grids, and provision of cheap power to data centers. An auction could be held to make desirable sites available,

with the funds used to allay negative impacts on communities.

Eighth, what about China? Western powers have asked this question for about two centuries. Our answer in the '90s was to bring China into the global rules-based framework of fair, tariff-free competition. Currencies should be fairly valued, and trade should flourish in accordance with David Ricardo's insights about comparative advantage. It was especially important to impose World Trade Organization rules, with potential sanctions, on a large and authoritarian economy like China's.

All our plans back in the '90s had an international component. Through treaties, international nonprofits, trade deals, and global advocacy, we wanted to create a huge boon for everyone and have that uplift translate into democracy, freedom, and peace. We wanted to open China to not just exports but a rule of law.

Our plans in the '90s for China were not fulfilled by succeeding administrations. The global war on

terror drove China far off the agenda. A different region—one where, as John Milton put it, “Armies whole have sunk”⁴²—received American attention, money, and blood. The attempt to restate a China policy in the 2010s was limited by the aftereffects of the 2008 crisis bequeathed by that same administration and by the surge in partisan politics that still plagues the United States.

The lesson of the ’90s, however, is that with China, a strategy is not optional. It is imperative. Beijing always has one. It is constantly updated. It is not designed to benefit the West. Meeting that plan with no plan, or at least no good plan, is not ideal.

Ninth, to realize the benefits of AI, firms will need to distribute—sell—solutions. We saw that the internet’s benefits would not be widely available in schools and libraries unless we acted. That was the reason for the E-Rate program. AI benefits, too, will not likely be available to all unless the federal and state governments create programs like E-Rate.

Nine reasons for creating an agency are probably less than the complete case. The military ramifications, for example, add a powerful 10th reason. However, the will to create a government structural and functional response to AI has not yet emerged in Congress or the executive branch. Events are likely to make the Artificial Intelligence Commission proposition irresistible, but drift and complacency could cost the country dearly.

Artificial intelligence has a long lineage but a staggeringly unknowable future. Our 30 years of learning about the communications technology revolution tell us that the changes are not likely to be either all glorious nor all horrific. They will be huge and mixed. Our experience teaches that the American people deserve a government commission—an institution—that will look out for them as AI changes the economy, society, and, perhaps, the definition of what it means to be human. This commission will need to act—even by using AI tools—for democracy, ethics, and goals that are good for all and not just some.

Acknowledgments

All the actions recorded in this chapter were the work of teams. No one person acted alone. This chapter, too, reflects excellent commentary and advice from many people, including Blair Levin, Gerry Waldron, Karen Kornbluh, Richard Tedlow, Tom Craft, Ira Fishman, Bill Kennard, and Greg Rosston. All errors of fact and judgment belong to the named author.

Notes

1. David M. Byrne and Carol A. Corrado, *Prices for Communications Equipment: Rewriting the Record*, Board of Governors of the Federal Reserve System, September 2015, <https://www.federalreserve.gov/econresdata/feds/2015/files/2015069pap.pdf>; Apple, “Apple Store Online,” accessed June 8, 2026, <https://www.apple.com/store>; and Apple, “Buy AirPods 4,” accessed June 8, 2026, <https://www.apple.com/shop/buy-airpods/airpods-4>.

2. Thucydides wrote: “The absence of romance in my history will, I fear, detract somewhat from its interest; but if it be judged useful by those inquirers who desire an exact knowledge of the past as an aid to the interpretation of the future, which in the course of human things must resemble it if it does not reflect it, I shall be content.” Thucydides, *The History of the Peloponnesian War*, 1.22, trans. Richard Crawley (Internet Classics Archive, 2009), <https://classics.mit.edu/Thucydides/pelopwar.1.first.html>.

3. Newton N. Minow, “Television and the Public Interest,” *Federal Communications Law Journal* 55, no. 3 (2003): 398, <https://www.repository.law.indiana.edu/fclj/vol55/iss3/4/>.

4. Matthew Lasar, “How TV’s ‘Vast Wasteland’ Became a Vast Garden,” *Wired*, March 19, 2011, <https://www.wired.com/2011/03/tv-became-a-vast-garden>.

5. Milton Mueller, "Interview with Mark S. Fowler," *Reason*, November 1981, <https://reason.com/1981/11/01/interview-with-mark-fowler/>.
6. Richard Zoglin, "Show Business: He Has a Hot TV Series, a New Book—and a Booming Comedy Empire," *Time*, September 28, 1987, <https://content.time.com/time/subscriber/article/0,33009,965610,00.html>.
7. Reporters Committee for Freedom of the Press, "FCC Upholds First Fine Levied Against Stern," November 16, 1993, <https://www.rcfp.org/fcc-upholds-first-fine-levied-against-stern/>.
8. The World Wide Web was created in 1989; the first smartphone was in 1994. It was knowable in 1992 what could happen, but not everyone had a good sense of what was possible. And no one knew everything that proved possible.
9. Abraham Lincoln, "Fragment on Government," in *The Collected Works of Abraham Lincoln*, ed. Roy P. Basler, vol. 2, 1848–1858 (Rutgers University Press, 1953), 220–21, <https://quod.lib.umich.edu/l/lincoln/lincoln2/1:261>.
10. Al Gore, "Remarks by Vice President Al Gore," White House, Office of the Vice President, January 11, 1994, <https://clintonwhitehouse6.archives.gov/1994/01/1994-01-11-remarks-by-vice-president-al-gore.html>. No one expressed the policy more simply or better than Karen Kornbluh at a Brookings Institution conference: "I was Director of the Office of Legislative and Intergovernmental Affairs at the FCC in the 1990s and then the Treasury Department representative on President Clinton's legendary Internet Policy Task Force. [We wanted] to make good on Al Gore's promise that a girl from Carthage, Tennessee could access any book in Library of Congress."
11. "Analog" meant that the electromagnetic waves varied in strength and pitch to create an "analogy" of the original sound or picture. The receiving device, such as a television or a telephone, received the signal and then imitated it in the picture or the earpiece. When the information was digitized, meaning translated into ones and zeros, each radio wave could convey more, and the receiving devices would manage it with microprocessors. To make a complicated story short, the microprocessor would turn the bits into sound and picture. That meant that the doubling of the microprocessor's speed and capability every two years (promised by Moore's law and delivered by Gordon Moore's company, Intel) would change and drive all media for the foreseeable future. Everything would quickly get better and cheaper. Not just new companies but whole new industries would change the world.
12. Nicholas Negroponte, "Wireless Revisited," *Wired*, August 1, 1997, <https://www.wired.com/1997/08/negroponte-28/>.
13. John C. Malone, "Surviving the Communications Revolution," speech, Yale University, New Haven, CT, October 7, 1999.
14. A bit is the smallest measure of digital information. It is either a one or a zero.
15. When the iMac was first introduced, it was difficult for many people to set up the internet connection, and the *i* suggested that Apple solved that problem. In a 1998 ad, Jeff Goldblum promoted the iMac by explaining: Step 1 was plug in; Step 2 was get connected automatically. And "there's no Step 3." Apple, "iMac Ad 'Three Steps,'" Internet Archive, 1998, <https://archive.org/details/apple-i-mac-90s-tv-commercial-with-jeff-goldblum-1998>. The connection was through a telephone line, as discussed in this chapter.
16. This move alone could put into permanent decline long-distance companies that were state-owned monopolies, just as would happen in the United States. Everyone in the global telephone industry understood clearly that the United States as the source of revenue and technological change had immense negotiating power. Our goal was to persuade the other countries that everyone would be better off if the benefits of the great digitization were shared everywhere.
17. As diplomats, we at the FCC had to learn there were limits to what we should demand. Philippines President Ferdinand Marcos told us that if we lowered the amount of incoming revenue from Filipino workers in the US calling home by the amount we proposed, his budget would not fund efforts to battle a Communist insurgency on one of the main islands. He sat at the desk once used by William Howard Taft during the American colonial occupation of the island. Marcos had installed a computer keyboard in the drawer, showing he was willing to let the internet in but needed the money. Seeing as how we were still in the afterglow of Communism's collapse, we agreed; watching authoritarian dictatorships thrive in Russia and China with complacency was part of American history only decades later.
18. In the early 2000s, Time Warner gave half its value to AOL in one of the most disastrous mergers in business history. Time Warner owned cable, the medium for the internet as everyone would know it in just a few years. AOL's dial-up service was doomed. Time Warner needed only to wait for the future to fall into its lap. But our policy was not to guarantee firms that they would win; it was to have whole ideas triumph. This is arguably a difference from the way things are in the 2020s.

19. After two days, we spotted apparent bidding collusion in one geographic market. I called Republican Senator Ted Stevens and asked for advice. The senator said he had seen the same thing happen when he sold offshore oil leases for the Interior Department in the Eisenhower administration, and he knew what to do. His public letter to the FCC threatening inquiry broke up the conspiracy, if there was one, and the bidding recommenced with competitive vigor.

20. *AT&T v. Iowa Utilities Board*, 525 U.S. 366 (1999) (Scalia, J., writing in a 5–3 decision).

21. This program was upheld by a unanimous Supreme Court in 2025 in *Wisconsin Bell v. United States ex rel. Heath*.

22. In 1997 Bill Gates, then either the world’s richest person or close to it, announced he would give internet access to everyone in Mississippi schools, known to be either the poorest or close to it in the United States. I enjoyed telling Gates that the job was done and that he should provide the computers with Microsoft software instead. Gates did that and sent me a thank-you note.

23. Reed Hundt, “Thinking About Why Some Communications Mergers Are Unthinkable,” speech, Brookings Institution, Washington, DC, June 19, 1997, <https://www.fcc.gov/Speeches/Hundt/spreh735.html>.

24. New York Tel combined with New England to create Nynex. Then it merged with Bell Atlantic and bought GTE. Southwestern Bell (rebranded as SBC Communications and then as AT&T) acquired Pacific Telesis, Ameritech, and BellSouth.

25. Global GDP was \$31.6 trillion in 1997 and \$32.7 trillion in 1999. In the United States, it was \$8.3 trillion in 1997 and \$9.3 trillion in 1999. The former is a \$1.1 trillion growth; the latter, \$1 trillion.

26. Adrian Karatnycky, ed., *Freedom in the World 2000–2001: The Annual Survey of Political Rights and Civil Liberties* (Freedom House, 2001), 9–13, https://freedomhouse.org/sites/default/files/2020-02/Freedom_in_the_World_2000-2001_complete_book.pdf.

27. Al Gore, personal conversation with the author.

28. We had Chief Judge Abner Mikva of the DC Circuit meet with all our lawyers and advise them about the importance of showing the reasoning for rules in the decision itself and not just in the brief filed in court. Our appellate lawyers, possibly for the first time in FCC history, thereafter were involved in drafting the rule. They greatly improved the agency’s record on appeal from the miserable 50 percent success rate we inherited.

29. The author apologizes to those who should be listed but due to the frailties of this scribe were not.

30. Ambassador Kornbluh has continuously led thinking and policy on the topics of this chapter. See, for example, Karen Kornbluh, “The Internet’s Lost Promise: And How America Can Restore It,” *Foreign Affairs*, August 14, 2018, <https://www.foreignaffairs.com/articles/world/2018-08-13/internets-lost-promise>.

31. It is noteworthy that Donald Trump’s 2025 effort was successful in achieving his goals in part because they were so broad and ambitious.

32. Perhaps Chairman Wheeler’s 2015 net neutrality rule, using Title II as the basis of jurisdiction, could have enabled the FCC to block transmission of harmful social media content. Admittedly, the advocates of net neutrality wanted the FCC to bar such blocking. The first Trump administration repealed that rule in 2017.

33. Ted Gioia, “Fifty People Control the Culture,” *The Honest Broker*, January 11, 2026, <https://www.honest-broker.com/p/fifty-people-control-the-culture>.

34. Jeffrey Gottfried and Eugenie Park, *Americans’ Social Media Use 2025*, Pew Research Center, November 20, 2025, 3–4, <https://www.pewresearch.org/internet/2025/11/20/americans-social-media-use-2025/>.

35. Alan Greenspan, “The Challenge of Central Banking in a Democratic Society,” speech, American Enterprise Institute Annual Dinner and Francis Boyer Lecture, Washington, DC, December 5, 1996, <https://www.federalreserve.gov/boarddocs/speeches/1996/19961205.htm>.

36. Here is an example: Entrepreneur Peter Thiel wrote in 2009, “I no longer believe that freedom and democracy are compatible.” He continued: “The 1920s were the last decade in American history during which one could be genuinely optimistic about politics. Since 1920, the vast increase in welfare beneficiaries and the extension of the franchise to women—two constituencies that are notoriously tough for libertarians—have rendered the notion of ‘capitalist democracy’ into an oxymoron.” Peter Thiel, “The Education of a Libertarian,” *Cato Unbound*, April 13, 2009, <https://www.cato-unbound.org/2009/04/13/peter-thiel/education-libertarian/>.

37. Josh Marshall, “Who Controls AI Exactly?,” *Talking Points Memo*, January 2, 2026, <https://talkingpointsmemo.com/edblogger/who-controls-ai-exactly>.
38. Government should have a public, expert-driven, flexible strategic plan for every major technological change. The electrical stake is another one. Noah Smith argues that these three inventions will transform business and society: the lithium-ion battery, the rare earth electric motor, and power electronics. Government expertise should be gathered somewhere to assess the impacts, just as this chapter has hazarded with AI. One obvious example is that the United States needs to gain reliable access to rare earths. Noah Smith, “America Must Embrace the Electric Age, or Fall Behind,” *Noahpinion*, January 9, 2026, <https://www.noahpinion.blog/p/america-must-embrace-the-electric>.
39. Eliezer Yudkowsky and Nate Soares, *If Anyone Builds It, Everyone Dies: Why Superhuman AI Would Kill Us All* (Little, Brown, 2025).
40. Jason Furman (@jasonfurman), “Investment in information processing equipment & software is 4% of GDP. But it was responsible for 92% of GDP growth in the first half of this year. GDP excluding these categories grew at a 0.1% annual rate in H1,” X, September 27, 2025, 5:48 p.m., <https://x.com/jasonfurman/status/1971995367202775284>.
41. Steven Bartlett and Roman Yampolskiy, *The Diary of a CEO with Steven Bartlett*, podcast, “Roman Yampolskiy: These Are the Only 5 Jobs That Will Remain in 2030 & Proof We’re Living in a Simulation!,” FlightStory, September 4, 2025, <https://podcasts.apple.com/cy/podcast/roman-yampolskiy-these-are-the-only-5-jobs-that-will/id1291423644?i=1000724933846&l=el>.
42. John Milton, *Paradise Lost*, bk. 2, lines 592–95.

IV. When Regulation Meets Reality: Lessons from the Telecommunications Act of 1996

Mark Jamison

When President Bill Clinton signed the Telecommunications Act of 1996, he said it would open “competition between local telephone companies, long distance providers and cable companies.” It didn’t. In reality, those companies soon all but disappeared. To the president’s credit, he recognized that something much larger might be underway, observing that the act would lay “the foundation for the robust investment and development that will create [an information] superhighway.”¹ Even that, however, turned out to be an understatement.

The local, long-distance, and cable providers Clinton referenced quickly faded into history, transmuting in appearance and substance into entirely different—and constantly evolving—businesses. Competition did not unfold neatly within predefined industry boxes. Instead, technological change dissolved boundaries faster than regulators could redraw them, giving rise to new platforms, services, and business models that few policymakers could have anticipated, making the United States a global leader in digital innovation.

What role did the ’96 act play in these transformations? Which of its features, if any, are worth applying to other industries now experiencing rapid

technological convergence? And which features—crafted for a world of stable categories and predictable trajectories—should never be seen again?

Answering these questions requires viewing the ’96 act in context. Its rules were designed to correct problems in an industry that had been shaped—indeed, misshaped—by decades of regulation. The act did not intervene in a naturally evolving market; it attempted to reengineer a regulatory construct just as technological progress was rendering its core assumptions obsolete. Every change that followed was built on regulatory foundations laid long before 1996, and the failure to recognize how quickly those foundations were eroding led to prolonged disputes, costly proceedings, and rules that struggled to keep pace with innovation.

The purpose of this chapter is to draw lessons from the ’96 act that inform policymakers, focusing on the act’s networking and content laws. The next three sections describe the mounting pressures that made the act necessary, originating from the growing chasm between old regulatory paradigms and the ever-changing realities of technology and economic conditions. The fifth section summarizes relevant features of the act. The final sections draw lessons for the future.

The Formation of Telephone Monopolies

A primary focus of the act was the local telephone monopolies. Those monopolies were not the result of market forces alone; state and local governments were largely responsible for their creation. In the late 1800s and early 1900s, municipal governments were franchising numerous types of businesses, such as utilities. The new telephone services slid easily into this model and so were designated monopolies. Competition was allowed in a few places, but customers were unhappy with its resulting vandalism and lack of interconnection, so these competitive pockets disappeared. State laws took over this franchising role with the introduction of state-level regulation.²

The franchises and statutes defined local exchange areas. A local exchange area was a geographic zone—typically a city and its surrounding communities—thought to share common economic and social interests. Governments granted a single company exclusive rights to serve each exchange area, coupled with obligations to provide service to all customers within its boundaries. Over time, this arrangement became nearly universal. By the time the '96 act was adopted, almost every area of the country had been assigned a local telephone monopoly, and roughly 95 percent of Americans had telephone service.

The federal government also played an important role in shaping the industry's monopoly structure. In the early 20th century, President Woodrow Wilson's administration sought to nationalize the telephone industry outright. That effort largely failed, but the drive toward monopolization did not. AT&T emerged as a government-endorsed—though not formally government-protected—monopoly. It presided over a system of monopolized local exchange networks interconnected by a nationwide long-distance network, much of which AT&T itself provided. Through its Bell operating companies (BOCs), AT&T was also the largest owner of local exchange facilities.³

Technological Change Invalidates Monopolies

A regulated monopoly depends on clearly defined and enforceable boundaries. In telecommunications, technological change steadily obliterated those boundaries. Well before the Telecommunications Act of 1996, regulators and courts were struggling to preserve distinctions that technological evolution was rendering obsolete.

The first boundary to fray was the line between telephony and computing. By the 1950s, it had become apparent that computers and communications would be closely intertwined. The Department of Justice (DOJ) worried that AT&T might leverage its telephone monopoly to dominate the emerging computer industry. When the DOJ and AT&T settled an antitrust case over AT&T's telephone equipment manufacturing in 1956, the resulting consent decree attempted to draw a firm line: AT&T would stay out of the computer business. This was an early effort to address technological convergence by legal decree rather than market forces.⁴

A second boundary problem arose over customer equipment. AT&T argued that its monopoly extended to not only its telephone network but also the devices customers used to access it. That claim proved difficult to sustain. In 1956, after nearly eight years of litigation, the DC Court of Appeals ruled in *Hush-a-Phone Corp. v. United States* that customers could attach equipment to AT&T's system so long as it was not harmful to the network. The Federal Communications Commission (FCC) expanded this principle in its 1968 Carterfone decision, affirming customers' right to connect non-AT&T devices directly to the network.

AT&T responded with tactics designed to preserve its control in practice if not in law—requiring protective couplers and then making them expensive and hard to obtain.⁵ The boundary remained on paper, but it was becoming porous in reality.

The most consequential boundary failure involved transmission, particularly the use of the radio spectrum. In its 1959 "Above 890" decision, the FCC concluded that there was sufficient microwave spectrum

to permit users other than AT&T to build private communications networks.⁶ This decision raised a series of increasingly difficult questions: If customers could construct their own networks, why could they not share them? If they could share them, why could that sharing not occur dynamically, rather than through fixed, long-term arrangements?

The answers to those questions opened the door to competition in long-distance service. In 1969, the FCC approved a petition from a newly formed company, MCI, allowing it to operate a private microwave network between Chicago and St. Louis and lease capacity monthly to business customers. MCI soon expanded its network and, through a series of regulatory work-arounds, transformed its offering—first from monthly service to hourly service and eventually, in 1975, to its minute-by-minute Execunet service. In substance, Execunet was ordinary long-distance telephony.⁷

AT&T resisted at every step, filing regulatory objections, denying interconnection, and delaying access wherever possible. Those efforts ultimately failed. The long-distance monopoly that earlier policymakers had believed could—and should—be preserved gave way to competition, not because Congress repealed it outright, but because technological convergence had undermined the assumptions on which it rested.

Antitrust Tries Its Hand: The Breakup of AT&T

The DOJ eventually concluded that many of AT&T's resistances to rivals violated US antitrust law and so filed suit against AT&T in the 1970s. The case dragged on for years and was going poorly for the company. In 1982, AT&T and the DOJ agreed to a breakup of the company, which was implemented in 1984 under the supervision of the US District Court for the District of Columbia.⁸

The divestiture was organized along what appeared, at the time, to be natural lines, but which were in reality creations of regulation. AT&T's local telephone monopolies were spun off into seven regional BOCs, later known as the "Baby Bells," while

AT&T retained long-distance service and equipment manufacturing. The structure reflected the prevailing belief that local service was a natural monopoly, while long-distance and manufacturing services could support competition.⁹

Even as the breakup was being put in place, however, evidence was mounting that these distinctions did not reflect technological or market realities. Competitive local fiber-optic networks were beginning to emerge; Teleport, the first major example, was formed in 1983.¹⁰ Cellular service—already gaining traction in Europe—showed none of the characteristics of a natural monopoly.

In adjacent markets, computing and communications were visibly converging: H&R Block acquired CompuServe in 1980 and began aggressively marketing an online service that blurred the line between data processing and communications.¹¹ Meanwhile, state regulators were fielding requests to soften the boundary between local and long-distance service through mechanisms such as extended area service, foreign exchange lines, and special toll discount plans.

The difficulty—perhaps the impossibility—of defining stable industry boundaries became even more apparent after the breakup of AT&T. Under the 1982 consent decree, the Baby Bells were subject to strict line-of-business restrictions that barred them from entering long-distance service, equipment manufacturing, and "information services."¹²

To escape those restrictions, a Bell company had to persuade Judge Harold Greene that there was no substantial possibility it could use its local monopoly power to impede competition—a legal standard so demanding that success was rare. The Bells filed thousands of waiver requests. Each required DOJ review and, ultimately, hearings and rulings by the court. The resulting backlog turned the divestiture court into a slow, de facto regulator.¹³

Simultaneously, the FCC was engaged in its own struggle to draw workable lines between regulated telecommunications services and emerging information services. The FCC's Computer Inquiries—spanning from the 1960s through the early 1990s—were a series of efforts to separate

monopoly communications from competitive computing, even as the technologies underlying the two became inseparable.¹⁴

By classifying data and enhanced services as unregulated and requiring carriers to offer them over open transmission facilities, the FCC unintentionally created an environment in which one new application would flourish: The World Wide Web, accessed via telephone networks, was launched and grew rapidly in the 1990s.

By the early 1990s, telecommunications policy was trapped between two failing strategies: court-managed line-of-business restrictions unable to keep pace with innovation and regulatory classifications that grew harder to defend as networks, services, and applications converged. Much of the Telecommunications Act of 1996 was an attempt to resolve these tensions—replacing judicial micromanagement and brittle boundaries with a new statutory framework for competition.

Congress's Response: The Telecommunications Act of 1996

By the early 1990s, the strain on the telecommunications regulatory framework had become impossible to ignore. Artificial market boundaries created by decades of regulation—and reinforced by the AT&T divestiture—were under sustained pressure from technological change. At the same time, the divestiture court's requirements and the FCC's hands-on regulations produced a system that was legally complex, economically fragile, and increasingly disconnected from how communications markets wanted to evolve.

The most intense pressure centered on the prohibition against BOCs providing long-distance service in competition with AT&T, MCI, and Sprint. These long-distance carriers opposed Bell entry in part because access charges—payments made to local telephone companies—accounted for roughly 45 percent of long-distance costs and were marked up several hundred percent above incremental cost.¹⁵ This price structure gave the BOCs the means and incentive to disadvantage rivals.

The Bells, however, viewed long-distance entry as strategically essential: Customers were clamoring for seamless services, and the long-distance carriers were investing to bypass the Bell networks. If those efforts succeeded, the BOCs feared they would suffer substantial competitive harm while remaining legally barred from responding.¹⁶

These tensions, along with many others, set the stage for the '96 act. But the same regulatory and antitrust decisions that had shaped the industry also fractured its politics. The act was not the product of a unified vision of telecommunications markets but a negotiated settlement among factions whose identities had been defined by law. The resulting statute combined sweeping pro-competitive aspirations with detailed, technology-specific compromises.

At its core, the '96 act sought to replace monopoly protection with competition. Local telephone companies lost their exclusive franchises and were required to interconnect with competitors, unbundle and lease their networks at incremental cost, and make services available for resale. In exchange, Congress struck what became known as the “Grand Bargain”: BOCs would be permitted to enter the long-distance market, but only after satisfactorily assuring the FCC that they had opened their local markets to competition.¹⁷

The '96 act also codified and expanded the concept of universal service. Originally advanced in the 1970s by AT&T as part of an effort to preserve its long-distance monopoly, universal service evolved into a broad commitment of subsidies to rural areas.¹⁸ The act required subsidies to be transparent and competitively neutral, with a focus on rural areas, schools, libraries, and healthcare providers. Implementing these principles proved difficult, however, because the FCC's existing systems were built around legacy telephone company territories and ownership patterns rather than competitive markets.

Beyond telephony, the act attempted to stimulate competition across communications platforms. It lifted long-standing restrictions on telephone companies providing video services and created a new regulatory framework—Open Video Systems (OVS)—to facilitate entry into cable television markets. Few firms adopted the model, and the rules remain on the

books today despite their technological irrelevance. The act also phased out rate regulation for some cable TV services and barred local governments from preventing cable operators from offering telecommunications services.¹⁹

While primarily focused on telephone and cable markets, the '96 act also contained provisions with profound implications for the internet. Section 230 shielded online platforms from liability for user-generated content, while the Communications Decency Act attempted—unsuccessfully—to regulate online indecency.²⁰ The act additionally granted the FCC tools for regulatory flexibility, including authority to forbear from enforcing outdated rules.

Notably, the '96 act left cellular services largely unregulated. That decision—made at a time when mobile telephony was still viewed as a niche—proved pivotal. Free from the weight of legacy classifications, mobile services evolved into the dominant communications platform for most Americans.

The '96 act represented Congress's attempt to escape a regulatory system built on increasingly indefensible boundaries. It relied on competition rather than categorical distinctions to discipline markets. Yet the act also carried forward many of the assumptions, classifications, and compromises of the regime it was meant to replace—a tension that would shape its outcomes in the decades that followed.

The Aftermath: A Revolution No One Anticipated

What were the impacts of the '96 act? Observers and researchers offer a mixed verdict. The act is often credited with removing legal barriers to competition, but its primary mechanism for creating local telephone competition—mandatory unbundling and resale—failed to produce the industry structure that policymakers and regulators envisioned. That outcome should not be surprising. Innovation, by definition, does not go according to plan.

Assessing the '96 act's legacy requires looking beyond specific market outcomes and considering how it affected the basic features of an evolving

economy. Three such features matter most: the foundations on which innovations are built, who can introduce innovations, and how success is determined.²¹ Regulatory policy powerfully shapes all three.

The '96 act's most explicit ambition was to remake the industry foundations on which innovation would occur. It attempted to do so by dismantling regulatory boundaries, impressing obligations on local telephone companies, and creating new entry frameworks such as OVS. Research suggests that the least consequential of these efforts were the unbundling and resale requirements.²²

Firms that relied on these provisions often grew quickly and then disappeared. The reasons are straightforward: The requirements reflected a political compromise built around existing services and incumbents rather than a realistic vision of rapidly evolving future markets. Building new firms on legacy networks made differentiation difficult, innovation harder still, and profitability uncertain. The complexity of the rules—and the litigation they spawned—introduced long delays between investment and revenue, a burden many entrants could not survive.

By contrast, the removal of regulatory market boundaries proved transformative. Eliminating distinctions between local and long-distance service, lifting restrictions on who could provide video programming, and rejecting artificial separations between transmitting and enhancing content allowed providers to respond directly to customer preferences. Long-distance companies declined not because they were outcompeted within their category, but because the category itself ceased to matter. The result was a wave of mergers, divestitures, and reorganizations that reflected economic convergence rather than regulatory design.

More important than any particular transaction was the change in who could innovate. Rather than telephone companies simply entering video markets and cable companies entering telephony, firms began competing as broadband, content, and platform providers, pursuing different technological paths. Cable TV services have persisted but increasingly compete with streaming platforms rather than each other. The center of gravity shifted away from regulated services

toward applications, platforms, and devices operating in rapidly changing ecosystems.

Mobile services illustrate this shift most clearly. Cellular service—left largely unregulated by the act—evolved rapidly. The introduction of the iPhone in 2007, followed by competing operating systems and app ecosystems, dramatically increased demand for mobile broadband. US providers aggressively deployed successive generations of wireless technology, while advances in satellite and aerospace engineering enabled low Earth orbit broadband systems that increasingly complement terrestrial networks. These developments did not emerge from statutory bargaining or regulatory micromanagement; they emerged from an environment in which boundaries were left to markets.

It is difficult to imagine this trajectory under a regime that preserved local telephone monopolies or maintained rigid distinctions between services. Broadband deployment, mobile innovation, and satellite integration would almost certainly have been subject to prolonged regulatory proceedings. Yet it is equally striking that few of the major innovations trace directly to the '96 act's central compromises, such as the Grand Bargain or unbundling mandates. In some cases, efforts to fine-tune entry conditions appear to have reduced competition rather than enhanced it.

Perhaps the '96 act's most enduring effect was shifting the system for determining success. Before deregulation, innovation in local networks depended on layers of regulatory approval, often accompanied by detailed conditions that reflected administrative judgments about acceptable offerings. After the act's deregulatory provisions took hold, customers—not regulators or courts—became the primary arbiters of success. The wide range of business models, technologies, and services that followed suggests a system that is more resilient and adaptive than the one it replaced.

The revolution that followed the '96 act was not one Congress designed. It was larger, messier, and far more consequential—and it emerged not from carefully drawn rules but from the abandonment of boundaries that no longer made sense, allowing US companies to be world leaders in digital innovation.

What We Have Learned

At least three lessons emerge from this analysis of the '96 act and its aftermath.

Regulating Categories Fails in an Evolving Economy

Regulations before the '96 act and some portions of the act itself were built on service-based categories that reflected the physical and economic realities of yesteryear. They could not survive the rise of a digital age.

As computing, communications, and content converged, firms reorganized themselves in ways that made legacy classifications harmful. Companies transformed into networking, multimedia, and other computing platforms. These changes were the result of not regulatory permission but technological and economic forces unleashed by deregulation. Many of the act's core distinctions became obsolete almost immediately.

The lesson is not that Congress failed to anticipate specific technologies. It is that regulatory frameworks built around static categories falter in environments characterized by rapid innovation and recombination. When categories collapse, regulation follows—not the other way around.

Competition Is a Discovery Process, Not a Design Exercise

Much of the '96 act was premised on the idea of managed competition. Incumbent local telephone companies were required to unbundle their networks and lease facilities to rivals at regulated rates. In theory, this would allow competition to emerge quickly and efficiently. In practice, it produced years of litigation and discouraged entry.

Incumbents already served nearly the entire market, and the pricing rules imposed on their networks threatened financial viability. Predictably, they resisted.

Vibrant competition arrived only when each firm focused on its vision of an alternative future—a greenfield where there was no incumbency, only opportunities to fail and succeed. Investments

reflected entrepreneurial judgments about consumer demand, not regulatory plans. The lesson is that competition works best as a discovery process in which firms experiment, building on what has come before, and are rewarded only when customers choose their services over the competition's.

Letting Go of Boundaries Matters More Than Picking Paths

Even the most detailed provisions of the '96 act did not produce its greatest consequences. Rather, the most profound impacts came from its decision to remove long-standing legal barriers. Eliminating restrictions on entry across services allowed firms to follow customers' desires rather than regulatory definitions. Over time, this produced consolidation, divestitures, and reorganization on a massive scale.

This consolidation was not evidence of policy failure. It was the natural result of dismantling an industry structure that had been frozen for decades by law. Markets reorganized around broadband platforms instead of political boundaries or legacy technologies. Attempts to preserve older structures—or dictate new ones—proved far less effective than allowing firms to adapt.

Two examples illustrate this dynamic. First, Section 230—originally a modest effort to protect early internet services from liability for user content—enabled the development of large-scale, multisided digital platforms. Its impact far exceeded its authors' expectations. Second, the act's effort to engineer video markets failed, while competition eventually emerged through streaming platforms and virtual providers—enabled in part by Section 230—that bundled content in ways consumers valued.

The lesson is not that policymakers should abandon rules altogether. It is that the hardest—and most important—regulatory choice is often deciding what *not* to control. In fast-moving sectors, preserving flexibility and allowing industries to evolve beyond regulatory vision is more valuable than attempting to guess which structures, technologies, or services will succeed.

Conclusion

The Telecommunications Act of 1996 is best understood as a case study in how regulations influence economic and technological innovation. Its most durable contribution was not its detailed market-opening provisions, many of which faltered at best, but its willingness to let go of traditions that held the country back.

Where Congress attempted to manage competition or preserve categories, it fell behind current events. Where it stepped back and allowed markets to discover new arrangements, innovation flourished in ways no one anticipated. That pattern is repeating today as artificial intelligence reshapes industries built on assumptions of stable technologies, predictable demand, and clearly defined services.

AI poses a similar challenge as an expanding, indiscrete set of changing capabilities that recombine computing, communications, and information. Attempts to regulate AI by category—model type, use case, or industry—risk reproducing the fragilities that plagued telecommunications policy. The most consequential policy question is how to avoid freezing in place distinctions that are at best yesterday's conventional wisdom. As in telecommunications, regulatory design will be slower to reveal viable paths than will competition, experimentation, and user-driven adoption.

Nowhere is this tension more visible than in electric and water utilities serving AI-driven data centers. These utilities operate under regulatory frameworks built for incremental growth, long planning horizons, and stable demand profiles. AI data centers disrupt those assumptions, creating rapid, location-specific surges in electricity and water demand that challenge existing regulatory models.

Regulators face pressure to protect customers from change—often using tools designed for a different era. The lesson from telecommunications is clear: Regulatory flexibility matters. Frameworks that allow utilities, customers, and investors to adapt dynamically will be more resilient than those that attempt to predefine acceptable uses, technologies, or growth patterns.

As AI—or any emerging technology—accelerates upheavals across sectors, policymakers would do well to remember that the greatest regulatory mistake is

not failing to predict the future but insisting that it look like the past.

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V. Why the 1996 Telecommunications Act Was Essential yet Failed

Adam Thierer

The passage of the Telecommunications Act of 1996 marked a crucial moment in the history of information and communications technology (ICT) policy in the United States. As an analyst at the Heritage Foundation in the early 1990s, I was actively involved in the debates leading up to the passage of the Telecom Act. I worked closely with key congressional lawmakers and committees during that time and saw the act evolve from just a few pages of streamlined deregulatory language into a complex, 128-page law full of contradictions.

In this chapter, I argue that the Telecommunications Act has been a mixed bag at best.¹ The law did somewhat move the US away from a convoluted, analog-era regulatory regime that had served the public poorly.² Unfortunately, reforms unfolded quite slowly, and the law's ambiguity created new problems. Specifically, the Federal Communications Commission (FCC) continued to meddle in ICT markets in costly, inefficient ways.

The best thing about the Telecom Act was what it did *not* do. Specifically, the law treated some sectors with a much lighter regulatory touch while largely ignoring other technologies. Immediately after the Telecom Act's passage, regulators prioritized older

sectors, such as wireline telephony, cable television, and over-the-air radio and television broadcasting, over emerging technologies. This was a blessing. By passing a mostly backward-looking law, Congress created an implicit policy firewall between the analog and digital eras. Regrettably, older sectors continued to labor under mountains of meddlesome regulatory policies. Luckily, however, newer technologies—especially online services, personal computing, electronic commerce, and smartphone hardware and applications—enjoyed general regulatory forbearance and benefited from a presumptive freedom to innovate.

Unfortunately, many problems with the Telecom Act remain because Congress failed to provide a clear vision and timetable for reform while also leaving the door open to ongoing FCC regulation. Reforms are still needed 30 years later.

A Response to Analog-Era Regulatory Mistakes

The Telecom Act's primary objective was "to promote competition and reduce regulation in order to secure

lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies.”³ Congress was responding to the convoluted thicket of federal, state, and local regulations that limited innovation and competition in ICT sectors. The FCC was responsible for much of this problem, but every state also had a public utility commission (PUC) that established entry requirements, regulated rates, and managed market outcomes in various ways.

Geographic monopolies in telephony, cable, and broadcasting developed not by natural market forces but through intentional political decisions and the imposition of a wide variety of regulatory mechanisms.⁴ These included line-of-business restrictions, operating licenses and permits, price controls and rate-of-return regulations, technical device and equipment regulations, and various quality-of-service and access requirements. Overlapping and inefficient “universal service” subsidies distorted markets and reinforced monopolies. Meanwhile, under the theory that the government owned the airwaves, the FCC tightly controlled wireless spectrum allocation and use. As a result, bureaucrats possessed sweeping control over the nation’s means of production of information. These policies created direct barriers to new entry, innovation, consumer choice, and free speech.⁵

The Telecom Act was also a response to the 1982 antitrust breakup of AT&T by the Department of Justice (DOJ).⁶ Incredibly, the DOJ handed control of the resulting AT&T antitrust consent decree to just one judge on the US District Court for the District of Columbia. This arrangement left him free to dictate important policies for the communications marketplace unilaterally, adding another layer of court-based regulation to what the FCC and the state PUCs were already imposing. With the Telecom Act, Congress looked to reassert its authority over these issues to address this problem.

In sum, for most of the 20th century, a regulatory hydra comprehensively controlled almost every facet of American communications and media technology, with the notable exceptions of newspapers, publishing, and computing. Strangely, therefore,

the oldest and newest ICT sectors in America were largely exempt from most federal and state regulation, but everything in between was smothered in confusing layers of technocratic regulations, distortionary subsidies, antitrust micromanagement, and speech controls. This continuing problem, which I refer to as “telecom’s twilight zone,” is discussed more below.

While the policies imposed by the FCC, state PUCs, and courts were supposed to serve “the public interest,” by the early 1990s it became clear that this system was broken and failing consumers. As enforced by politicians and bureaucrats, “the public interest” ultimately had little to do with what the public actually wanted—more competition, more choices, and more diverse content.⁷ Instead, the system was often serving *private* interests that had “captured” the regulatory process.⁸ As the early 1990s witnessed the dawn of digital technologies, personal computers, the internet, electronic commerce, and advanced wireless systems, the old regulatory system obviously had to come in line with modern marketplace realities and consumer desires.

“A Model of Ambiguity”

This unfortunate regulatory history forced Congress to explore major reforms to traditional communications and media policies, and after an intense debate, the Telecom Act passed. While Congress hoped to “promote competition and reduce regulation,” the Telecom Act ultimately yielded micromanaged, partial liberalization. The law did not initiate far-reaching deregulation or agency abolition—which was what the Carter administration and Congress did in the late 1970s by sweeping away the regulatory regime that once governed the commercial airline marketplace. The Telecom Act instead retained much of the traditional regulatory apparatus. It tweaked some old rules, introduced new ones, and even empowered the FCC to engage in new types of market manipulation.

The act retained the traditional regulatory approach of partitioning ICT markets in different “silos,” with

sector-specific FCC bureaus overseeing unique bodies of law for “cable service,” “telecommunications,” “mobile service,” or “broadcasting.”⁹ The rise of digital markets, online speech, and other new communications and media options signaled that a world of technological convergence was coming. Yet instead of eliminating those artificial distinctions and regulatory silos, Congress allowed them to persist and even bolstered them.

In a 1999 Supreme Court decision that evaluated the FCC’s powers under the Telecom Act, Justice Antonin Scalia concluded,

It would be gross understatement to say that the 1996 Act is not a model of clarity. It is in many important respects a model of ambiguity or indeed even self-contradiction. That is most unfortunate for a piece of legislation that profoundly affects a crucial segment of the economy worth tens of billions of dollars.¹⁰

Despite this ambiguity, the Court allowed the FCC to continue to micromanage telecom markets because the justices generally deferred to Congress and its authority to establish the agency’s powers, even if the law was broad and self-contradictory.

This makes it clear that the biggest problem with the Telecom Act was Congress’s failure to seriously constrain the FCC, which empowered the agency to regulate more using open-ended new powers. The most problematic new rule involved “open access” provisions regulating the sharing of traditional wireline telephone lines and components.¹¹

Leading up to and following the Telecom Act, an astonishing amount of time and paperwork was devoted to maintaining the artificial demarcation between “long-distance” and “local” telephony. Instead of sweeping these distinctions away in the Telecom Act, Congress reinforced them and created new regulatory authority through infrastructure-sharing rules and interconnection mandates, leaving the FCC broad discretion to enforce them. The agency used these ambiguous provisions to create a confusing new set of “unbundled network element” (UNE) sharing rules and a convoluted pricing

formula for them called “total element long-run incremental cost” (TELRIC) pricing.¹²

Like all central planning efforts, the UNE-TELRIC regulatory regime produced more paperwork and litigation than consumer benefits. Three of the most important rules the FCC generated during this period—the Local Competition Order (1996), UNE Remand Order (1999), and UNE Triennial Review (2003)—totaled a staggering 1,575 pages and 6,770 footnotes of regulations.¹³ The FCC promulgated many other rules to implement other parts of the Telecom Act, and countless additional state PUC proceedings created many additional rules and proceedings.

Lawyers benefited far more from this paperwork than the public did, and it set back industry investment for a time as more regulatory proceedings and legal challenges ensued, creating enormous market uncertainty. In the wake of the 2003 UNE Triennial Review rulemaking, one telecom lawyer famously told *The New York Times*, “Every word will be challenged. . . . My children will go to college on this stuff. This is a lawyer’s dream.”¹⁴

What is most astonishing about this is how irrelevant it would all become due to dynamic change in ICT markets. With the rise of robust nationwide wireless networks and high-speed fiber networks, the “long-distance” versus “local” telephony distinction became meaningless rapidly. Markets and the public moved along faster than the FCC.

The FCC promptly shifted its attention to control of broadband markets as the “net neutrality” wars began in the mid-2000s. Another long fight ensued over whether the FCC could regulate how broadband services were packaged and priced. Once again, lawyers and lobbyists benefited more than anyone else from this until the regulations were finally beaten back after a protracted, decade-long fight.¹⁵

There were also many other FCC efforts to use its ambiguous authority under the Telecom Act (or previous policies that Congress failed to reform) to regulate in other ways. Those include agency efforts to influence television programming decisions directly and indirectly (something the FCC still does today, as discussed below) by using the threat of agency fines

and other penalties. And the law included requirements for new broadcast television ratings to address violent content using a V-chip, which could block rated shows if households programmed their V-chip to do so. Few did, however, and the system proved to be a bust and was forgotten quickly.¹⁶

The Telecom Act also included other new speech-related regulatory schemes that raised First Amendment-related challenges. The law included Communications Decency Act provisions seeking to regulate “obscene, lewd, lascivious, filthy, or indecent” content online, but the Supreme Court unanimously declared them unconstitutional in the historic 1997 case *Reno v. American Civil Liberties Union*.¹⁷ The act also included cable TV signal “scrambling” rules to filter sexually explicit programming, but the Supreme Court also struck those down in 2000.¹⁸

On top of all the economic and speech-related regulation that unfolded in the wake of the Telecom Act, the FCC also used any telecom and media merger as an opportunity to extract from firms a variety of “voluntary concessions” that could not otherwise be obtained through standard legal procedures.¹⁹ Again, this happened because Congress failed to limit the scope of agency powers in the Telecom Act.

Some Important Accomplishments

Despite those problems, the Telecom Act included some provisions that produced positive results. The law spurred a move away from price controls and rate-of-return regulations, which were highly destructive. It also clawed back authority from the courts, which had been empowered to dictate important policies for the communications marketplace by the 1984 AT&T antitrust breakup.

The act’s two most important elements were its preemption provisions, which helped spur the development of robust nationwide markets, and Section 230 of the Communications Decency Act of 1996, which was part of the Telecom Act. This provision became a catalyst for the explosive growth of online markets and speech. Each is discussed in turn.

Addressing State Barriers to Innovation and Competition

The Telecom Act recalibrated the federal-state balance of power and helped push communications markets into a new technological era, especially by moving the nation away from regional regulation and local monopolies.

Section 253 of the law stated that “no State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.”²⁰ This addressed the costly patchwork of anticompetitive state public utility regulations that had encumbered communications markets for decades, as discussed above.

Unfortunately, the way Congress addressed jurisdictional responsibilities throughout the act resulted in some continuing confusion and contentious court battles.²¹ Again, this is why Justice Scalia argued the Telecom Act was “a model of ambiguity or indeed even self-contradiction.” A 2021 Congressional Research Service (CRS) report similarly noted how “delineating the contours of the FCC’s preemption authority can become complex once specific statutory provisions are brought to bear on particular issues.”²²

This confusion flowed from the act’s back-and-forth provisions regarding some jurisdictional assignments. For example, Section 704 of the law said that “nothing in this Act shall limit or affect the authority of a State or local government . . . over decisions regarding the placement, construction, and modification of personal wireless service facilities.” However, the act went on to establish important limitations on this local power by stipulating that governments

“(I) shall not unreasonably discriminate among providers of functionally equivalent services; and

“(II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.”²³

Congress included other provisions granting the FCC authority to preempt laws that undermined nationwide competition. Section 706 specified that

the FCC and state regulators should “encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans” through the use of “regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.”²⁴

Despite some contradictions, the Telecom Act helped establish more robust national wireless and broadband markets. Luckily, Congress had already authorized spectrum auctions as a method of allocating national wireless licenses.²⁵ Federal lawmakers were attracted to the revenues such auctions could generate—and ongoing auctions did generate billions for federal coffers.²⁶ More importantly, auctions injected greater market discipline into the spectrum allocation process by distributing wireless licenses. Previously, the agency used highly politicized comparative hearings and random lotteries to determine who received licenses.²⁷ Unfortunately, as noted below, Congress did not follow through with additional policy reforms needed to ensure fully flexible, tradable spectrum rights.

Telecom Act preemption provisions also facilitated wireline broadband rollout. After a protracted battle over proposed net neutrality regulations subsided, investment grew and high-speed fiber networks acquired broader reach. A USTelecom report on broadband capital expenditures for America’s major wireline, wireless, and cable broadband providers noted that spending totaled nearly \$90 billion in 2024.²⁸ In turn, these investments laid the groundwork for the massive AI-related infrastructure build-out happening today.²⁹

In sum, the Telecom Act’s push for nationwide competition and deployment encouraged more robust investment and innovation as a new global information technology marketplace was taking shape. The provision discussed next furthered that outcome even more.

Section 230: The Foundation of American Digital Technology Success

The greatest irony of the Telecom Act is that its most consequential provision was largely an afterthought.

“When the 1996 Act passed, few observers would have thought that Section 230 would have any long-lasting or profound effects,” note Hudson Institute scholars.³⁰ Yet this provision would become the legal cornerstone of the modern digital economy and the foundation of America’s dominance in the global tech markets.³¹

Section 230 was meant to address confusion in lower courts regarding liability for third-party speech on online platforms.³² The provision addressed that problem by shielding online intermediaries from liability for the third-party content and communications that traveled over their networks. This liability shield facilitated more speech outlets and opportunities and “has served as protective armor for internet users of every stripe.”³³

Section 230 also led to an explosion of online commercial activity and investment as information platforms and applications grew. “No other sentence in the U.S. Code,” one expert argued in 2015, “has been responsible for the creation of more value than that one.”³⁴ Section 230 allowed an entirely new generation of once-tiny tech startups to grow rapidly, generate trillions in economic activity, and create American-based global technology powerhouses. Without Section 230, internet entrepreneurs, smartphone apps, and social media platforms would have faced the threat of litigation-happy trial lawyers and countless state regulators.

While some critics of the provision think it has been too generous to tech companies, eliminating it would have devastating ramifications. A January 2026 study by the Computer & Communications Industry Association said repealing Section 230 protections would cost investors at least \$2.2 trillion, amounting to a 3.8 percent decline in the S&P 500.³⁵ Without this default liability shield, online speech would also be less free and vibrant.³⁶

Ultimately, legal simplicity and a general freedom to innovate are powerful catalysts for the growth of commercial applications and free expression.³⁷ The key takeaway of these successes is that where markets and technologies were freed from regulatory shackles and where the FCC and trial lawyers were restrained from intervening in emerging sectors, innovation and speech blossomed.

The Continuing Need for Reform

Unfortunately, Congress did not adequately finish the job it started in the Telecom Act because it failed to sunset the many archaic rules governing telecom and media markets and simultaneously delegated too much authority to the FCC to regulate in other ways. While America's information marketplace evolved rapidly, the law and the agency did not. Just 11 years after the law passed, CRS had already concluded that "the environment we live in today was barely contemplated" when the Telecom Act passed, and "there is consensus that the current statutory framework is not effective in the current market environment."³⁸ What was obvious to CRS in 2007 is even more evident in the remarkably diverse ICT ecosystem of 2026.

Unfortunately, the FCC continues business as usual, which threatens to extend analog-era regulations into the AI age.³⁹ While the FCC's relevance rapidly wanes, the agency remains remarkably active and continues to exert considerable influence over ICT markets. According to the Competitive Enterprise Institute's latest annual survey of federal regulatory activity, the FCC ranks first among independent regulatory agencies in terms of rules promulgated, outpacing the Securities and Exchange Commission and Nuclear Regulatory Commission, among others. An estimated 88 percent of those FCC rules affect small businesses.⁴⁰

Even if some of these rules have pro-competitive intent, most of the agency's regulations are unnecessary vestiges of a bygone era. Worse yet, many of the regulations benefit incumbents, not the public. "The FCC's broad grant of authority, combined with its impenetrable complexity, means that it has nearly boundless ability to distribute favors and shape the trillion-dollar technology and media industries," notes telecom scholar Brent Skorup.⁴¹

For example, universal service subsidy rules have resulted in decades of cost overruns and inefficient service delivery.⁴² For households in need of broadband assistance, subsidies should have long ago been

divorced from distortive FCC regulations that mostly benefited rural carriers. Policymakers should have delivered assistance directly to needy families as targeted, means-tested welfare instead.

Likewise, while some level of spectrum governance remains important, it, too, should have been removed from the FCC's hands decades ago. Technical spectrum allocation and management decisions could have been transferred to the National Telecommunications and Information Administration or a private technical coordination body. FCC spectrum management simply has too many political strings attached and has too often been co-opted by industry players to exclude competition.⁴³

Finally, as noted earlier, the FCC never had any business being America's third antitrust agency by imposing layers of indirect mandates on parties pursuing mergers. The Federal Trade Commission (FTC) and the Department of Justice Antitrust Division already possess more than enough authority to police markets and mergers. Moreover, the FCC is just not very good at it. In one of the agency's most famous blunders, the FCC spent years obsessing over the AOL-Time Warner merger and imposed various conditions to address dial-up internet access and instant messaging activities.⁴⁴ The merger ended up failing miserably, with the combination losing almost \$100 billion within three years before the firms finally divorced a few years later.⁴⁵ AOL-Time Warner got steamrolled by new broadband competitors, online platforms, and social networking services that no one, including FCC officials, saw coming.⁴⁶

Unfortunately, Congress did not adequately address any of these problems in the 1996 act. In fact, it made matters worse in some ways by handing the agency open-ended authority to impose "a stupefyingly complex labyrinth of rules" that were "a logistical nightmare all around," as telecom analyst Peter W. Huber noted in 2003.⁴⁷ Alfred Kahn, America's leading expert on network regulation at the time, decried the FCC's approach and called for "deregulating the process of deregulation" because the agency had bungled things so badly.⁴⁸

Regulators Will Change Only When Forced by Congress or Technological Realities

The key lesson of the Telecom Act experience is that it is essential to get the job done when looking to clean up past messes and even more crucial to not create new problems while doing so. Instead of specifying meaningful limits on FCC power and a clear timetable to achieve liberalization objectives, Congress hoped regulators would voluntarily abide by the act's goal to "promote competition and reduce regulation." This was wishful thinking. Even before the Telecom Act, it was clear the agency would never relinquish control over markets, even when encouraged by Congress to forbear from regulating.

Consider an obscure provision of the FCC's code that Congress passed in 1983, related to "New Technologies and Services." The law said,

It shall be the policy of the United States to encourage the provision of new technologies and services to the public. Any person or party (other than the Commission) who opposes a new technology or service proposed to be permitted under this chapter shall have the burden to demonstrate that such proposal is inconsistent with the public interest.⁴⁹

The provision also established a 12-month timetable for any FCC action pursuant to the clause. The FCC could have used this provision to unlock new types of ICT services on a quicker timetable by ensuring that new players had a presumptive freedom to innovate. Instead, the agency mostly ignored the law and continued regulating new technologies as it had always done.⁵⁰

That happened because bureaucrats never had strong incentives to relinquish power voluntarily. Congress should have placed tighter limitations on the FCC and required it to forbear from regulating new services. Congress should have also conducted greater oversight of FCC actions that violated that principle and held the agency accountable. Unfortunately, those things never happened.

Even when the FCC does get around to relaxing regulation, it usually comes after protracted legal battles. In the past century, the FCC aggressively regulated the design of telephone hardware and limited new entry and innovation in the equipment market. The agency largely backed AT&T's argument that only the monopolist should provide telecom equipment to ensure system integrity. The results were ludicrous. In one astonishing episode in the 1950s, the FCC sided with AT&T in blocking the sale of a device called the Hush-a-Phone, which was simply a small plastic cup that snapped onto the mouthpiece of a phone to provide privacy for callers.⁵¹ The FCC eventually reversed course and started allowing new types of telephone handsets, but not without plenty of regulation. It would be decades before the FCC changed its ways and let users get access to simple new features, like different telephone handset colors, designs, and longer cords.

Contrast that situation with today's ICT equipment market and imagine if the FCC had been allowed to regulate every aspect of smartphone design in the same way the agency controlled old telecom equipment decisions. The smartphone revolution would not have taken off as quickly as it did had Steve Jobs and Apple been forced to endure years of regulatory proceedings before offering the public a mobile supercomputer in the form of the iPhone. Similarly, the online video marketplace or smartphone application ecosystem would have stagnated had the FCC been in a position to require a license before every new app launched to ensure that it served "the public interest."

While the Telecom Act included various forbearance provisions and requirements for periodic regulatory review, the agency largely ignored them even though there was plenty of regulatory deadwood that could have been discarded long ago. As Skorup observes, "Reviewing modern communications laws and regulations is akin to pawing through an eccentric antique dealer's basement: One stumbles upon artifacts that no one quite remembered were there and that no one can quite justify."⁵² The FCC seems to be willing to throw in the towel only after old ICT technologies become completely obsolete. For example,

the agency finally scrapped its Morse code regulations in 2007, and in 2025 the FCC finally closed the book on regulations governing telegraphs, rabbit-ear broadcast receivers, and phone booths.⁵³

Telecom’s “Twilight Zone” Problem Grows Worse

Congress’s failure to reform archaic telecom and media policies continues to create opportunities for unnecessary and illogical FCC meddling in markets and speech. Recently, for example, FCC Chairman Brendan Carr has been engaged in battles with late-night talk show hosts Jimmy Kimmel and Stephen Colbert regarding different content choices both hosts made. After a Democratic candidate for office appeared on Colbert’s show, Carr pressured the show’s broadcasters and reminded them of the equal-time rule’s application to their programs.⁵⁴ This 92-year-old regulation requires licensed broadcasters to “afford equal opportunities to all other candidates” when one candidate appears on certain programs beyond just ordinary newscasts.⁵⁵ Chairman Carr argues the agency’s pressure on the broadcasters airing those shows represents straightforward enforcement of long-standing FCC regulatory authority.⁵⁶

One need not weigh the merits of Chairman Carr’s reading of the agency’s authority in this case to ask a different question: Why is the agency still in the business of regulating matters of media balance or taste in an age of abundant media delivery platforms? The disputed content in both instances was immediately available via multiple media platforms. The fact that one of those platforms was a broadcast television affiliate is largely meaningless to a public that probably saw it on another medium first. It is irrational to regulate identical communications in different ways based on how they get delivered to the public.

Unfortunately, since the Communications Act of 1934, the FCC has been regulating speech over radio and television broadcasts under a different First Amendment standard than that accorded to both older and new media platforms. As a result, a sort of “telecom twilight zone” has developed

where the oldest print outlets (newspapers, magazines, and book publishers) and newest digital platforms (online networks and modern social media) are exempt from FCC speech regulation, but everything in between (radio broadcasting, television broadcasting, and some cable TV) is subjected to burdensome regulation and speech controls. As a result, *the exact same speech is often being regulated in completely different ways*. The oldest and newest ICT platforms essentially get the gold standard of First Amendment protection, while broadcast stations are, in essence, accorded second-class citizenship in terms of First Amendment rights.⁵⁷

While defenders of this bizarre regime traditionally fell back on “scarcity”-based arguments or assertions that “the public owns the airwaves,” those arguments were never valid reasons for asymmetrical speech regulation, and those rationales are now completely illogical in an age of information abundance and declining broadcaster influence in the broader media marketplace.⁵⁸ It makes no sense that functionally identical speech is being treated unequally depending on how information is being communicated to the public. There is no “print speech,” “broadcast speech,” and “online speech.” There is just speech. When Congress passed the Telecom Act, lawmakers should have closed the book on this regime and the many outdated broadcast regulations that prop it up. Instead, this system persists and allows continued FCC speech meddling.

Forgotten Reforms That Are Still Needed Today

Various analysts and even some policymakers identified the deficiencies of the Telecom Act from the start. At the time of the act’s passage, it was widely believed that Congress would follow up with some important additional spectrum policy reforms and protections for internet services to ensure the FCC would not meddle in new sectors. Unfortunately, that also did not happen.

For example, just months after the Telecom Act passed, Senator Larry Pressler, the chairman of the

Senate Commerce Committee who had steered the law through the Senate, floated a bold draft legislative proposal called the Electromagnetic Spectrum Management Policy Reform and Privatization Act.⁵⁹ During debate over the Telecom Act, many analysts pushed Congress to create a full-fledged free market of tradable spectrum properties and ensure more flexible use of those wireless properties was permitted. Congress failed to include such reforms in the act to fully liberate the airwaves. Senator Pressler's bill pushed in that direction, but the measure did not advance beyond committee draft stage. This was a major missed opportunity.

The following year, two leading congressional proponents of keeping the internet free of FCC interference introduced H.R. 2372, the Internet Protection Act of 1997.⁶⁰ The proposal stated, "It shall be the policy of the United States to rely on private initiative and to avoid, to the maximum extent possible, government restriction or supervision of such services." It also forbade FCC regulation of "the rates, charges, practices, classifications, facilities, or services for or in connection with the provision of Internet information services to customers" and "any other regulation of the provision of Internet information services."⁶¹ The measure never advanced.

Luckily, however, other actions helped protect the internet and online markets from FCC interference. Importantly, in 1997, the Clinton administration released a surprisingly free-market-oriented document, "The Framework for Global Electronic Commerce," which argued for a "predictable, minimalist, consistent and simple legal environment for [electronic] commerce."⁶² Congress, however, did not take up a corresponding legislative framework to limit regulatory overreach.

Many policy analysts and academics also proposed comprehensive communications reform frameworks, but Congress never entertained their proposals. For example, I contributed to two major academic projects to formulate comprehensive telecom deregulation and FCC reform, which were both spearheaded by the Progress & Freedom Foundation (PFF). In each PFF reform proposal, the goal was to eliminate arbitrary FCC "public interest" powers, streamline

universal service efforts, create more fully flexible and tradable spectrum property rights, and limit the agency's powers over ICT markets in other ways.⁶³

In a May 1995 PFF special report, *The Telecom Revolution: An American Opportunity*, experts from eight think tanks proposed a "Replacement Model" for the FCC. The plan proposed detailed telecom and media deregulation and the transfer of the agency's remaining functions to a new office.⁶⁴ Specifically, universal service programs and spectrum management functions would have been comprehensively streamlined and then handled by different bodies. In 2005, PFF launched an even broader bipartisan reform effort called the Digital Age Communications Act (DACA) Project, which brought together more than 50 leading telecom policy scholars.⁶⁵ Through five working group reports, these experts devised detailed reform proposals for various elements of communications law.

Both PFF reports stressed the need to move communications and media law away from vague "public interest" notions that left too much discretion to FCC bureaucrats. The *Telecom Revolution* report would have moved to sunset the FCC as part of these reforms and then tightly limit ICT regulation after the agency's residual functions were transferred to a new body. By contrast, the DACA project retained the FCC but proposed converting the agency into something more akin to a sector-specific version of the FTC. The DACA approach to constraining the FTC's vague public interest powers was to replace it with a more concrete "consumer welfare" standard like what the FTC had long used and then also rely more on FTC-like *ex post*, adjudicatory-type mechanisms instead of preemptive regulatory rulemakings.

In a sense, the DACA vision was actually quite moderate, and many Democrats played a part in the project, including current Colorado Attorney General Phil Weiser, who was then a law professor. Unfortunately, Congress never took up the reforms even though the DACA contributors handed lawmakers detailed language for how to write these reforms into law. DACA found only one willing congressional sponsor, South Carolina Senator Jim DeMint. His Digital Age Communications Act of 2005 proposed some, but not all, of the recommendations from DACA

working group members, especially those related to universal service and the need for additional preemptions of state and local barriers to innovation and competition.⁶⁶

The proposal noted that “a regulatory regime enforced by multiple jurisdictions, based on disparate laws, may result in inconsistent, unpredictable, and onerous rules that inhibit investment, innovation, and competition.”⁶⁷ Accordingly, the bill would have made it clear that “electronic communications networks and services be governed by a single, unified, minimally pervasive regulatory regime determined and generally implemented at the Federal level.” The goal was “to eliminate regulation based on technological or functional distinctions among communications services and networks” and “to avoid extending legacy regulation to additional services, networks, or providers.”⁶⁸

Importantly, DeMint’s bill also included clear time limits on FCC actions so that the agency could not drag its feet when making determinations. The measure also proposed mandatory five-year sunsets for any new agency actions taken following the law’s implementation.

Conclusion

Congress could build on reforms such as these and go further by applying sunset provisions to existing portions of the FCC’s code of regulations to ensure that archaic rules are reformed or eliminated on a timely basis. The code of regulations governing communications needs a thorough spring cleaning to address the mandates that continue to unnecessarily encumber this marketplace.

Notes

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Lawmakers should then move to shrink the FCC’s powers and devise a timetable for agency closure. “As its original mission has faded, the FCC has become increasingly politicized, aligning with shifting partisan agendas rather than exercising independent expertise,” argues American Enterprise Institute scholar Mark Jamison. “Given its loss of purpose and its institutional weakness, it appears that communications policy in the U.S. would be better off without the FCC.”⁶⁹ The agency’s core functions—common carrier regulation of communications and broadcasting licensing—are now obsolete, Jamison notes.

The FCC now operates primarily for the betterment of the many lawyers and lobbyists who continue to petition the agency to extend the life of old, unnecessary rules or impose new obligations on technologies and sectors that it has no business regulating. At a minimum, Congress must not let the FCC expand its mission well beyond its traditional boundaries such that it would become a veritable Federal Artificial Intelligence Commission. The best way to do so is to significantly limit the agency’s powers or, more simply, eliminate it altogether.

Of course, the current legislative environment does not instill one with much hope that any of this will happen. Congress has proved incapable of advancing comprehensive technology policy measures in recent years, and there have been no serious efforts to constrain the powers of the FCC. The danger of continued FCC meddling in existing or emerging information technology markets remains real, however, and Congress should address the Telecom Act’s unfinished business by cleaning up this mess once and for all.

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VI. The Telecommunications Act of 1996: Reflections at 30 Years

John W. Mayo

This chapter addresses two important questions that linger about the Telecommunications Act 30 years after its passage in 1996: What were the underlying predicates to the act, and what has subsequent research indicated about the act's economic consequences?

Predicates of the 1996 Telecommunications Act

The short answer to the first question is that two things came together to lead to the act. First, the essential drivers of statutory change in this industry were all in place in the early to mid-1990s. Second, not only were the drivers in place, but the timing was right. The American people were receptive to the idea of legislation that billed itself as pro-competitive and deregulatory. Others are far better versed than I in the political environment at the time and the political process that enabled the act to receive wide bipartisan support, so here I focus on the principal economic drivers for the legislation.

First, the interplay among three principal drivers has propelled virtually every major policy change in the telecommunications industry since its inception in 1876. Those three drivers are technological

change, competitors (incumbents and new entrants), and regulators. When the interplay among these drivers has been in equilibrium, statutory changes have not been forthcoming. When the interplay has been in disequilibrium, statutes have tended to change, and the 1996 Telecommunications Act is a great example.

After the formation of the Federal Communications Commission (FCC) in 1934, there was, roughly speaking, equilibrium among the principal drivers of the telecommunications industry for about 20 years. It was a period of technological stasis. Telephone service and telephones were simple and unchanging. Regulators developed a byzantine, but stable, focus on regulating the vertically integrated monopolist (AT&T). Regulatory barriers to entry and a general lack of awareness of profits in telecommunications markets kept competitors at bay.

The first hint of disequilibrium came with a seemingly minor and certainly obscure legal case brought by a company named Hush-a-Phone. The company made a coupling mouthpiece that fit on the speaker end of a telephone and allowed people speaking on the telephone to have a private conversation in a room with other individuals. AT&T objected to Hush-a-Phone's entry, claiming monopoly rights over customer-premises equipment, and the FCC agreed.

The case then went to the Supreme Court, which overturned the FCC's ruling and permitted, for the first time, competition to AT&T.

The minor disequilibrium brought about by Hush-a-Phone grew significantly when a startup company (Microwave Communications Inc., later known as MCI) relying on microwave technology sniffed out very high price-cost margins in the long-distance telecommunications market and sought to enter that market. Again, AT&T fought the proposed entry. But this time the FCC allowed the entry, and a subsequent flood of competitors emerged that relied on relatively new low-cost microwave (e.g., MCI) or fiber-optic (e.g., Sprint) technologies.

After losing its regulator-induced monopoly, AT&T adopted two strategies. The first was to petition the FCC to maintain its monopoly. This “preservation of monopoly” tactic was entirely legal under the Noerr-Pennington doctrine.¹ AT&T's second strategy was to take its “preservation of monopoly” tactic to the marketplace. Unlike AT&T's regulatory strategy, the marketplace practices turned out to be entirely illegal. AT&T was found guilty of monopolization and attempts to monopolize and fined \$1.8 billion in an antitrust suit brought by MCI in 1974 and tried in 1980.² As consequential as this lawsuit was, it turned out to be the less consequential of the antitrust cases AT&T faced.

The Department of Justice also charged AT&T with monopolization in 1974, alleging that it had obstructed interconnection with competitors that harmed competition.³ In 1982, AT&T and the Department of Justice reached a settlement in the antitrust case when AT&T agreed to a restructuring that separated the vertical segments of the industry. Local exchange services, under control of the Bell Operating Companies (BOCs), were divorced from the provision of long-distance telephone service, while AT&T was left to provide long-distance service.

This restructuring, which occurred in 1984, threw what had been minor disequilibrium among the principals into major disequilibrium. New entrants, seeing the combination of high prices and opportunities to enter the market using low-cost microwave and fiber technologies, flooded the long-distance market.

By 1993, over 400 new long-distance competitors had entered the market.⁴

The robust competition that emerged in the long-distance market predictably led AT&T, which had been the largest actor but was now considerably smaller, to alter its course in at least three ways. First, it sought access to new technologies and services—in particular, cellular services—by acquiring McCaw Cellular Communications. Second, it sought reduced regulation of its long-distance services. Finally, it began the battle to establish economically efficient prices for access to local exchange facilities.

Importantly, each of these efforts had to be fought at the FCC and 50 state public utility commissions. These battles were incredibly costly and amounted to the regulatory equivalent of trench warfare. Worn down by these battles, AT&T became open to a statutorily induced recalibration of the industry.

For their part, the BOCs were entirely unsettled by the divestiture agreement, which restricted them from participating in three markets they coveted: long-distance telephony, the provision of information services, and the manufacture of telecommunications products or customer-premises equipment. The companies consequently began a serious push to remove these restrictions. Having no success in the courts, the BOCs increasingly viewed federal legislation as the most viable path to remove the line-of-business restrictions they faced.

The BOCs also faced disequilibrium from technological change and regulation. In particular, the introduction of commercial cellular service in the early 1980s opened the door for more competitors that vied for consumers' telecommunications dollars.⁵ For their part, regulators dialed up more pressure on the BOCs by establishing spectrum rules ensuring there would be multiple cellular carriers in each of their markets.

Finally, regulatory bodies were thrown into disequilibrium in the wake of the AT&T divestiture. Competitors into long distance, short (intraLATA) long distance, and private branch exchange (PBX) were rapidly arising across the country. Both the permissibility of new firm entry and regulatory rules governing the emerging competition from these new entrants had to be established.

The initial consideration of these issues was by state-level public utility commissions. These commissions, however, often reached markedly different decisions; for instance, some states initially forbade intraLATA competition while others embraced such competition. As a result, state and federal regulatory bodies increasingly saw federal legislation as a possibility for creating a unified regulatory framework for the industry.

In sum, the disequilibrium among the principal drivers generated independent support for the prospect of overarching federal legislation that would “solve” the problems.

Although the economic drivers were in place for new legislation in the mid-1990s, moving the legislation across the finish line required receptivity from the American people, Congress, and the president. In hindsight, we can now see that the mood of the American people was quite receptive to legislation designed “to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies.”⁶

For example, consider the political science research on swings in public opinion and policy formation. In that realm, University of North Carolina Professor James Stimson created a multidimensional index measuring the “mood” of the American people toward government.⁷ Stimson’s mood index provides an indicator of aggregate US public opinion over time using the results of survey research on public opinion over many decades. The underlying data in the index come from over 200 questions gauging the mood of Americans on specific policy areas over numerous periods.

Using a factor analysis, Stimson discovered a prominent underlying dimension to US public opinion described simply as a “more government, less government” dimension. The dimension is scaled between zero and 100, with higher values indicating a shift in public opinion to favor greater government involvement in the affairs of private citizens and businesses.

Figure 1 shows Stimson’s index of the American public policy mood alongside major deregulatory

events of the past 50 years. As the figure shows, policymakers have typically pursued deregulation when the mood of the American people is more sympathetic to individual freedom and less sympathetic to an active role for government. For example, airline, railroad, and interstate trucking deregulation all occurred during the 1978–80 period in which the ideological mood was at historically low levels. Similarly, intrastate trucking and long-distance telecommunications deregulation occurred in the mid-1990s, another low point on the mood index.

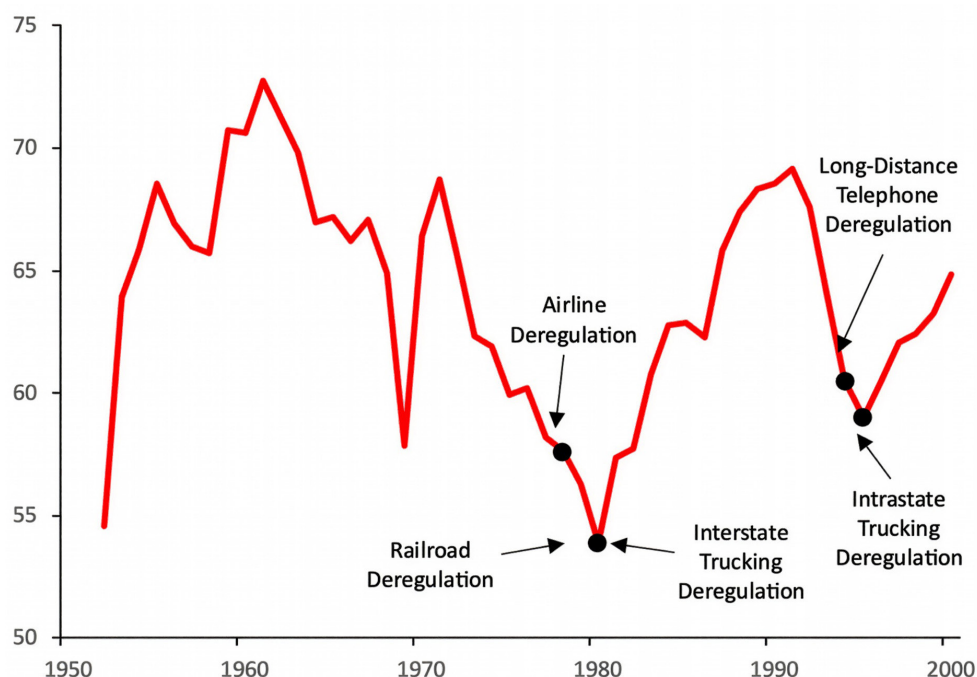
Economic Consequences of the 1996 Telecommunications Act

Next, consider the second question posed at the beginning of this chapter: What has subsequent research indicated about the economic consequences of the 1996 Telecommunications Act? Ordinarily this would be a great question: Economists are generally keen to analyze the effects of a policy change on economic performance measures. In this case, however, there are at least two reasons I cannot simply point to a bibliography of careful research on the act’s economic impact.

First, at the very moment the act was being implemented, major technological changes rendered many otherwise specific and important issues moot. For example, consider two nominally important research questions: What impact did the act have on competition in the local exchange market? And what impact did the act have on competition in long-distance markets? As nominally important as the answers to these questions may have seemed to the passage of the act, technological change and substantially evolving demand across telecommunications services in the act’s wake rendered these questions moot. Indeed, the explosion of cellular telephony and the growth of the internet fundamentally eviscerated any meaningful analysis of local exchange or long-distance markets.

Second, the fact that the industry has been so dynamic—with dramatic changes on the supply and demand sides of telecommunications markets—

Figure 1. Regulation, Deregulation, and the Mood of the American People



Source: James Stimson, Public Policy Mood, 1952–2024, <https://stimson.web.unc.edu/data/>.

makes isolating the effects of the Telecommunications Act difficult, if not impossible. These developments have collectively altered the lens through which economists, policymakers, and regulators have drawn inferences about the act's economic impact. Consequently, there has been more reflection than research. Reflection can add value, but it also allows for unsupported opinion and ideology in a way that true research does not.

Where does that leave us? Sometimes the best we can do is turn to factual metrics that consumers and citizens care about and let people draw their own conclusions. Some basic economic metrics are readily available in the wake of the act, and these metrics would be central to more sophisticated economic analysis, were it feasible. In particular, economists often see prices, innovation, quality, output, and investment as indicative (though not entirely dispositive) of the evolution of economic welfare in an industry. We can feel very good about those five metrics after 30 years of the act.

- 1. Prices.** The price of telephone service has fallen precipitously since the passage of the act, whether measured by the consumer price index or Average Revenue per User metric.
- 2. Innovation.** Traditional voice telephone service has morphed to voice, video, and data since the act's passage. Looking forward, AI technology could now revolutionize the way humans interact.
- 3. Quality.** In the mid-1990s, when the Telecommunications Act was passed, dial-up technologies provided internet access at speeds that now appear glacial. Today, the mean fixed-line internet access (download) rate in the United States is over 270 Mbps.⁸ Smartphone ownership and carriers' adoption of 5G wireless platforms have enabled smartphone download speeds of over 240 Mbps, nearly comparable to the speeds of using fixed connections.⁹ Beyond speed

increases, the quality of modern telephony has grown with expanded versatility in the uses of modern wireless devices. For example, consumers today increasingly use smartphones to make internet-based purchases. *ConsumerAffairs* reports that about one-third of the US population uses a phone to purchase goods or services at least once a week.¹⁰

4. Output. *ConsumerAffairs* also reports that as of 2024, on average, Americans spent 4.5 hours per day on phones, a rate that is up dramatically from telephone usage at the time of the act's passage.¹¹ This dramatic increase in consumer usage and carrier output provides a powerful prima facie case that consumers are now enjoying massively more consumer surplus with telecommunications than they did in 1996.

5. Investment. While prices, innovation, quality, and output measures provide indicators of current economic welfare, investment represents a window into the future welfare of consumers. Since the passage of the Telecommunications Act of 1996, telecommunications providers have invested \$2.2 trillion to lower prices and increase innovation, quality, and support to meet massively increased demand

from consumers.¹² During the most recent reporting period (2024), private-sector providers invested nearly \$90 billion.¹³ This investment enhances the likelihood of future growth in consumer and economic welfare.

Concluding Thoughts

I close with two cautionary points. First, the prima facie economic benefits that consumers have enjoyed since the passage of the act are not dispositive as to future benefits. In a world of rapidly shifting technology, past benefits are not a guarantee of future benefits. Policymakers should be vigilant regarding future threats to the pro-competitive and deregulatory environment that the 1996 Telecommunications Act sought to establish.

Second, it is unclear whether the consumer benefits that came with the act would have been even better without the act. As I have noted above, it is exceedingly difficult to develop credible studies to definitively answer that counterfactual question. That said, I suspect many industry observers share my intuition that consumer welfare has advanced significantly with the passage and execution of the Telecommunications Act of 1996.

Notes

1. *Eastern Railroad Presidents Conference v. Noerr Motor Freight*, 365 U.S. 127 (1961).
2. *MCI Communications Corp. v. American Tel. & Tel. Co.*, 708 F.2d 1081 (7th Cir. 1983).
3. See US Department of Justice, press release, November 20, 1974, https://www.justice.gov/archive/atr/public/press_releases/1974/338834.pdf.
4. See John W. Mayo, testimony before the US Senate Commerce Committee, March 2, 1995, 1:42:10, <https://www.c-span.org/program/senate-committee/telecommunications-policy/49114>.
5. Similar disruptions on the technological front were occurring in the provision of multichannel video services, which were historically provided by local cable monopoly franchises. In particular, the introduction of Direct Broadcast Satellite service in 1983 unsettled cable incumbents.
6. See preamble, Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat 56.
7. James Stimson, Public Policy Mood, 1952–2024, <https://stimson.web.unc.edu/data/>.
8. Federal Communications Commission, 2024 *Communications Marketplace Report*, December 31, 2024, 207, <https://www.fcc.gov/reports-research/reports/consolidated-communications-marketplace-reports/CMR-2024>.

9. Federal Communications Commission, *2024 Communications Marketplace Report*.
10. Alexis Bazen, “Cell Phone Statistics 2026,” *ConsumerAffairs*, January 22, 2026, https://www.consumeraffairs.com/cell_phones/cell-phone-statistics.html.
11. Bazen, “Cell Phone Statistics 2026.”
12. USTelecom, *2024 Broadband Capex Report*, October 21, 2025, <https://ustelecom.org/research/2024-broadband-capex-report/>.
13. USTelecom, *2024 Broadband Capex Report*.

VII. Keynote Speech

Deb Fischer

Now that it has been 30 years since Congress committed to connect all Americans to advanced communications through the Telecommunications Act of 1996, we can reflect, reassess, and reenvision the economic and technological opportunities to meet our mission of universal service across our country.

But first, I'd like to share why broadband access is so important to me. My husband, Bruce, and I raised our family on a cattle ranch near Valentine, Nebraska, a rural community that understands how spotty internet makes it difficult—if not downright frustrating—to connect with family and friends, learn at school, or run a business.

That reality has shaped my work in the US Senate. As a senior member of the Commerce Committee, I have the privilege of chairing the Telecommunications and Media Subcommittee.

Related to my committee's portfolio, my team has been laser focused on the Federal Communications Commission's Universal Service Fund (USF). For decades, the USF has supported communications access to rural America at reasonably comparable rates to denser urban and suburban communities.

Today, the fund is poised for updates. We need a USF that is predictable, sustainable, and modernized to reflect how people actually communicate in 2026.

That's why I am proud to co-lead a bipartisan, bicameral congressional working group charged with reshaping the USF. Our goal is straightforward: Make

sure this mechanism supports universal service long into the future in a manner that targets resources and eliminates waste.

It is not enough to talk about closing the digital divide—we must prove that we are truly doing it.

One major way to tackle this was by relaunching the USF Working Group in June 2025. In August, we began collecting a range of comments from stakeholders on the future outlook for the USF. That public comment period closed in mid-September.

Since then, my team has been diligently reviewing the hundreds of comments submitted through our portal—as well as with our Senate and House working group colleagues. We are really pleased to see such a high level of interest. We want to review each comment thoroughly to inform our forthcoming framework and solicit feedback from stakeholders engaged in this process.

My goals for this framework start with ensuring that we define what universal service means in 2026—not 1996. This will enable us to create updated goals and metrics for each USF program.

We are taking an honest look across the board at every USF program—ensuring they are fulfilling their intended purposes efficiently and effectively. The working group has many questions to answer about what these programs mean for universal service in the digital age, such as the following:

- How can the High Cost Program remain reliable for the companies that provide voice and broadband services in the most rural parts of our country?
- How can the E-Rate Program support how students learn in today's classrooms?
- How can the Rural Health Care Program boost connectivity for rural clinics as the demand for telemedicine grows?
- How can the Lifeline Program align with the modern communications needs of low-income households?

Improvements to the fund also include where we may be able to improve USF's administration—fending off future court challenges that threaten its very existence.

In all of this, we must balance sufficient contributions to the fund, along with distributions from the fund. As the statute requires, we must ensure that we maintain a fair and neutral approach in these efforts.

Another cornerstone of my work is the Broadband Equity Access and Deployment (BEAD) Program, which was created by the Bipartisan Infrastructure Law. I was proud to support this legislation when it was enacted in 2021. My subcommittee also has jurisdiction over the National Telecommunications and Information Administration (NTIA), the agency authorized by Congress to implement the program.

To be clear—I am happy that agency's new program rules have cut away the Biden administration's red tape. The previous administration did everything it could to twist congressional intent, which severely stalled progress.

However, we have more work to do to ensure that the BEAD funding made available by the

Bipartisan Infrastructure Law is put to its best—and its intended—use.

First and foremost, it is crucial that NTIA allows and enables states to retain this funding. Whether it's for precision agriculture, network cybersecurity, or telehealth, there are a variety of ways that BEAD funding can still be used to boost connectivity and meet the statutory purpose of the program. Regardless of who is in the White House, states were always meant to exercise discretion with their BEAD allocations, so long as they comply with the law. This is what Congress intended.

No state should have to rely on one type of network technology—that does not suit a program meant to build future-ready communications infrastructure. Deploying a range of broadband network technologies will lead to added resilience and innovation.

Ultimately, I hope to see BEAD funding maximized by each respective state and territory, as soon as possible. I will continue to press for this approach to close the digital divide—and keep it closed.

I never want to send a message to rural America that DC bureaucrats think they are simply not worth serving with high-quality, reliable, and scalable broadband service. So much of Nebraska's population lives in areas that are geographically challenging from a business vantage point—where network deployment lacks the population density that leads to a naturally competitive marketplace.

For me, this isn't just policy. I know what it means to live in a community where reliable internet is a luxury, not a given. And I know the opportunities rural America is missing as a result, from education and telehealth to entrepreneurship and precision agriculture.

Every American, regardless of their zip code, deserves access to dependable broadband. I will keep pressing until that vision becomes a reality. Because in today's world, connection isn't a convenience—it is a necessity.¹

Notes

1. This keynote was delivered at the American Enterprise Institute in Washington, DC, on February 10, 2026. American Enterprise Institute, “30 Years of the Telecommunications Act: What Did We Learn?,” February 10, 2026, <https://www.aei.org/events/30-years-of-the-telecommunications-act-what-did-we-learn/>.

VIII. Conclusion

Mark Jamison

The discussions and presentations at an event often explore areas or provide different emphases than what authors detailed in their prepared remarks. This was true for the American Enterprise Institute’s February 10, 2026, event, “30 Years of the Telecommunications Act: What Did We Learn?”¹

In his opening keynote, Reed Hundt expanded on his thoughts comparing the digital revolution of the 1990s and today’s surge in artificial intelligence development. He put greater emphasis on creating an expert regulatory institution capable of navigating complex technological transitions, embracing competition and creative destruction, and pursuing a global strategy for opening markets for American technology companies. He also expanded on his thoughts about a new policy framework for artificial intelligence, including stronger privacy protections, potential revisions to platform liability, and the creation of a specialized federal body to coordinate AI policy.

The panel discussion explored the historical forces that produced the Telecommunications Act of 1996 and the economic outcomes that followed. John W. Mayo expanded on why economists cannot easily isolate the act’s precise causal impact, noting that the substantial forces unleashed by the deregulatory aspects of the ’96 act make counterfactual scenarios highly speculative. This lack of objective means for assessing what would have happened without the

’96 act is unacceptable in economics journals, so the assessments are largely found in law journals and unpublished working papers.

Adam Thierer expanded on the work left undone by Congress. The ’96 act was to be a first step in regulatory reform, but Congress lost interest once it passed the legislation. This is disappointing and limited the amount of deregulation that Congress should have done.

Other panelists highlighted the continuing importance of regulatory institutions in guiding technological transitions. Ruth Milkman argued that the success of the telecommunications transition depended heavily on the FCC’s technical and economic expertise. In her view, Congress could not realistically anticipate every technological development or market response, making the agency’s policymaking role essential. She pointed to several policies—including spectrum ownership limits designed to promote competition in wireless markets, interconnection rules that allowed wireless networks to connect seamlessly with existing telephone systems, and number-portability requirements that enabled consumers to switch carriers without losing their phone numbers—as examples of how regulatory intervention helped facilitate competition and consumer choice.

Robert Quinn likewise emphasized the act’s significance in establishing a coherent national policy

framework that replaced what he described as a fragmented patchwork of state-level regulations. At the same time, Quinn pointed to areas where the compromises necessary to pass the legislation created enduring challenges. He argued that exemptions granted to many small rural carriers limited competition in those markets and contributed to a continuing reliance on federal subsidy programs. These structural features, he suggested, complicate efforts to modernize networks and reform universal service programs today.

Senator Deb Fischer's closing keynote focused on current legislative efforts to close the digital divide. Her presentation highlighted her experience representing a largely rural state, as she emphasized the importance of ensuring reliable broadband access for communities that private markets alone may struggle to serve. She expressed optimism for bipartisan work in Congress to modernize the various subsidy programs.

What can we conclude? Thirty years after the Telecommunications Act of 1996, Congress again faces the challenge of governing technologies evolving faster

than statutes and regulatory frameworks can accommodate. The experience of the past three decades suggests several lessons. First, major reform becomes easier when policymakers and stakeholders experience the incoherence of existing institutions and rules that no longer fit the country's technological and economic realities. Second, new policies should focus on establishing clear principles and practices that remove barriers to innovation, not directing industry or technology outcomes. Finally, there is an open question about where national leadership will come from (whether from Congress, the White House, the courts, or elsewhere) and where it will lead (whether to hardwired structures whose relevance decays or adaptive frameworks that take advantage of the technological and economic forces at work).

As lawmakers and others confront the opportunities and risks ahead, the history of the '96 act reminds us that durable policy is rarely about predicting the future correctly. It is about creating the conditions in which innovation, competition, and broad public benefit can emerge.

Notes

1. American Enterprise Institute, "30 Years of the Telecommunications Act: What Did We Learn?," February 10, 2026, <https://www.aei.org/events/30-years-of-the-telecommunications-act-what-did-we-learn/>.

About the Authors

Deb Fischer is a lifelong Nebraskan who was first elected to the US Senate in 2012 and reelected in 2018 and 2024. She serves on six Senate committees: Armed Services; Appropriations; Commerce, Science, and Transportation; Agriculture, Nutrition, and Forestry; Rules and Administration; and Ethics. As a member of the Senate Committee on Commerce, Science, and Transportation, Senator Fischer provides leadership on issues related to our nation's infrastructure, particularly roads, bridges, and broadband access. She was recently appointed chair of the Subcommittee on Telecommunications and Media, which has broad jurisdiction over communications matters, including telephone, internet, satellite, broadcast, wireline and wireless broadband, spectrum management, and public safety communications.

Reed Hundt was chair of the Federal Communications Commission from 1993 to 1997. He has served on the board of many communications and technology firms, has been a senior adviser at Skadden Arps and Covington law firms, and is currently CEO and cofounder of Refounding America, a 501(c)(3) nonprofit.

Mark Jamison is a nonresident senior fellow at the American Enterprise Institute, where he works on how technology affects the economy and on telecommunications and Federal Communications Commission issues. He is concurrently the director and Gerald Gunter Professor of the Public Utility Research Center at the University of Florida's Warrington College of Business.

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