Chapter One

Introduction to Telecommunications Regulation

The fundamental problem of contemporary communications law is also the fundamental problem facing a contemporary casebook on "telecommunications law and policy." The problem facing the law is that, in the 21st century, we are experiencing real technological convergence: the phenomenon that communications services—whether the delivery of voice, video, or data—can be accomplished over multiple platforms using different technologies. The current student or practitioner thus finds it unsurprising that an increasing number of people have no landline telephone service, relying instead on cell phones or Internet voice services or both. Video is available via over-the-air broadcasting (though few now watch it that way), cable television wires, satellite signals, or any device with an Internet connection (be it a computer, a television, or a hand-held mobile device).

By contrast, the current communications law—at least in the basic statutory dimension—is largely unconverged. The Communications Act still has separate titles governing telephone service, broadcasting, and cable services, reflecting the time in which these platforms provided relatively distinct types of services. When Congress last enacted major revisions to the Communications Act (in 1996), it did not focus on the Internet. As a result, the Act lacks any comprehensive treatment of the Internet. The Internet's significance became clear only later, and Congress has not revised the Act since then. Of course, to speak of the Internet as a single platform is itself an egregious error, for almost every communications platform now provides Internet access, and one of the deep questions is whether any rational difference exists in the transmission aspects of different services (answer: probably not, see Chapter Eighteen).

Layered on top of the problem of the law lagging behind technological convergence is the ascendancy of a set of policy tools, principally competition economics, that are used to address communications law across the traditional legal boundaries. These tools assess the need for and effectiveness of regulation quite apart from the historical paths that led to the different statutory regimes.

This is the policy context into which this casebook steps. The reality is that the practitioner of telecommunications policy—whether a representative of the Federal Communications Commission or a regulated company or a member of the public seeking to influence policy—must make arguments at multiple levels. Notably, effective arguments must account for the underlying technology and economics (and other policy dimensions) as well as place those arguments within an existing statutory, regulatory, and institutional

structure that is very much attached to history and its own internal precedents. Although this sounds daunting and it frequently is, it is also what makes this particular field so intellectually rich and challenging—in addition, of course, to the fact that communications is one of the most important sectors in the modern economy.

To respond to this challenge, the first two chapters of this casebook provide an overview that frames the policy debates that recur throughout the more particularized regulatory disputes that arise in the subsequent chapters. This chapter marshals the arguments for specialized communications regulation and the tools that have most frequently been deployed to try to meet the justifications on which that regulation has been built. In particular, this chapter seeks to answer two fundamental questions: (1) why might one pay special regulatory attention to communications, and (2) what are the principal instruments of that regulatory toolbox? The next chapter turns to the institutional questions. It provides a brief overview of the Communications Act as it now stands, discusses a little bit of its history, and then focuses on issues related to institutional design and governance structures.

The remainder of the book follows a more traditional organization, framing issues largely within the context in which they arose. (We say "largely" because, among other things, we have merged our discussion of the video services of cable and satellite, even though each of them is governed by a separate title of the Communications Act.) We begin with these two overview chapters because we believe that they will help establish connections between the materials that follow. Indeed, while the law remains segregated, the FCC, aided by others, has addressed each of the services in some part based on a set of common principles. In the final chapter, we come full circle and return to an institutional focus, asking whether the history and future of telecommunications regulation argue for a very different regulator.

§ 1.A. Communications as a "Regulated Industry"

Communications has long been considered a "regulated industry." Telephony has been subject to special federal regulation since 1910, and broadcasting since 1927. But the fundamentals of communications regulation were established long before those dates; in fact, Title II of the Communications Act of 1934 was lifted almost word for word from the Interstate Commerce Act of 1887 (ICA), which subjected railroads to the specialized regulation of the Interstate Commerce Commission (substituting, of course, telephony for railroads). The ICA also served as the model for numerous other instances of regulation—including air service (the Civil Aeronautics Act), trucking (the Motor Carriers Act), electricity (the Federal Power Act), and stockyards (the Packers and Stockyards Act).

Communications regulation, thus, is a case study of a particular kind of regulation, shared at times by substantial portions of the economy. Regulation more generically speaking is, of course, all around us. Despite the meaningful senses in which the United States is a free-market economy, few enterprises are not subject to substantial regulation, be it health and safety, wage and hour, or environmental regulation. Even bakeries (which economists sometimes use as examples of highly competitive markets) face controls on what they must pay their workers and the purity of their products.

Describing an industry as a "regulated industry" therefore has a particular meaning, and one could focus on regulated industries generally: the schemes of regulation governing railroads, electricity, communications, air service, and many other industries have much in

common. At an institutional level, a regulated industry is typically supervised by a specialized administrative agency, which implements sector-specific legislation. Thus, a regulated industry is one that is subject to more than the general regulation to which every economic actor is subject and one that is subject to more than a specific instantiation of health and safety regulation. For example, the manufacture of automobiles is not considered to be a regulated industry, notwithstanding that automobile factories are subject to environmental regulation, occupational safety and health regulation, labor law, and employment law, and notwithstanding that automobiles may not be sold until they are certified as meeting highly detailed Motor Vehicle Safety Standards, emissions controls, and other specific requirements.

What are the central features of regulated industries? While these have changed over time, the classic model—the model of the Interstate Commerce Act and the original Communications Act—had three essential characteristics. First, the government (through a sector-specific, expert agency) limited entry into and exit from the market. Under the Communications Act of 1934, one could not provide interstate telephone service or transmit using the airwaves unless the FCC had issued an appropriate license. Second, the government regulated the key economic terms under which companies provided service. Under the 1934 Act, for example, telephone companies were required to file, in advance of providing service, tariffs that set forth their rates and terms for all services. The FCC was empowered to suspend, investigate, and reject those tariffs if it found them improper. This economic regulation is perhaps the hallmark of what was known as a regulated industry and has become its most controversial feature. Third, government officials often set rates to address the social policy goal of ensuring "universal service"—i.e., requiring some customers (e.g., businesses) to pay rates well above cost to enable others (e.g., residential consumers) to pay rates that are well below cost.

In this chapter, we survey both the economic and noneconomic justifications for applying a special body of law—sector-specific regulation—to communications services; their theoretical and factual bases, how well they have been translated into regulatory policy, and whether they remain valid as communications markets continually change. Many of these justifications are not unique to communications: they can apply to many individual industries, just as the regulated industries model has governed many industries over time, and they can provide justification for the application of certain non-sector-specific legal regimes, such as general antitrust law.

§ 1.A.1. Justifications for Regulation

One could argue that regulation does not need a justification, or, perhaps more precisely, that regulation needs no more justification than those with the ultimate power to regulate—generally Congress—deem adequate. At least since the New Deal and the overruling of the *Lochner* decision,[1] courts have not considered themselves in the business of determining whether Congress had an *adequate* justification for regulating. Indeed, even during the so-called *Lochner* era, courts provided considerable leeway to regulators in industries "affected by a public interest."[2]

---

1. *See* W. Coast Hotel Co. v. Parrish, 300 U.S. 379 (1937) (effectively overruling Lochner v. New York, 198 U.S. 45 (1905)).
2. Munn v. Illinois, 94 U.S. 113 (1876) (upholding, in the face of a constitutional challenge, rate regulation of grain elevators).

Recognizing that all regulation is essentially a political act does not make an inquiry into the justifications for regulation fruitless. And, indeed, in the regulated industries field, one can identify a more or less coherent set of justifications that have been offered for specialized regulation: because political actors make arguments, they appeal to history, and they operate within a defined set of institutions. They also operate within a wider intellectual discourse, in which academics and other commentators assess both the arguments made and the effectiveness of the regulation offered.

At a more practical level, regulated industries law operates within the constraints of administrative law, which means that courts determine whether the agency has violated the Administrative Procedure Act (APA) by acting in a manner that is "arbitrary [and] capricious."[3] In practice, this role requires the courts to decide whether the agency followed the actual substantive directions provided by Congress. In so doing, courts will generally evaluate the agency's articulated justifications for its action as part of the effort to determine whether the agency's action falls within the role envisioned by Congress.

In communications policy, the justifications for regulation can be broadly (and coarsely) divided into market-failure justifications and other justifications. Put more simply, some justifications for regulation are based on the notion that communications markets do not work. Other justifications are based on the notion that, even if these markets function reasonably well, they nevertheless do not provide the socially optimal level or mix of communications services.

§ 1.A.1.a. Market Failure Justifications

Historically, most regulation of wireline communications rested on concerns over monopoly. Monopoly is a market failure because monopolists choose to produce a lower quantity and charge higher prices than would prevail in competitive markets. Communications markets present particularly challenging monopoly problems, because the monopoly power may exist for multiple reasons.

The first, most traditional, monopoly story was that of natural monopoly. What is a natural monopoly? Consider the following excerpt from Judge Richard Posner, taken from a case in which a would-be cable franchisee accused the City of Indianapolis of violating antitrust law by discouraging competition in the local cable market:

> The cost of the cable grid appears to be the biggest cost of a cable television system and to be largely invariant to the number of subscribers the system has. Once the grid is in place — once every major street has a cable running above or below it that can be hooked up to the individual residences along the street — the cost of adding another subscriber probably is small. If so, the average cost of cable television would be minimized by having a single company in any given geographical area, for if there is more than one company and therefore more than one grid, the cost of each grid will be spread over a smaller number of subscribers, and the average cost per subscriber, and hence price, will be higher.
>
> If the foregoing accurately describes conditions in Indianapolis it describes what economists call a "natural monopoly," wherein the benefits, and indeed the very possibility, of competition are limited. You can start with a competitive free-for-all — different cable television systems frantically building out their grids and signing up subscribers in an effort to bring down their average costs faster than their rivals — but eventually there will be only a single company, because until a company serves the whole market it will have an incentive to keep expanding in order to lower its average costs. In the interim, there may be wasteful duplication of facilities. This duplication may lead not only to higher prices to cable television subscribers, at least in the short run, but also to higher costs to other users of the public ways, who must compete with the cable television companies for access to them. An alternative procedure is to pick the most efficient competitor at the outset, give him a monopoly, and extract from him in exchange a commitment to provide reasonable service at reasonable rates. In essence the antitrust allegations in this case accuse the City of Indianapolis of having taken this alternative route to the monopoly that may be the inevitable destination to which all routes converge.[4]

3. 5 U.S.C. § 706(2)(A).

In the United States, the preferred method of regulating markets for goods and services is usually to rely on competition, with many firms offering substitutable goods and services and thus trying to sell to the same customers. This competition among firms for consumers' patronage tends to force firms to move prices toward the marginal cost — the cost of producing each additional unit — of the relevant good or service. As a firm raises its prices above its marginal cost, it will find its customers shifting their purchases to competitors that charge lower prices. For the same reason, competition tends to reward firms that produce goods and services efficiently; because their costs are lower, these firms can underprice less efficient rivals. Ideally, then, competition forces firms both to put their resources to their most productive uses (what economists sometimes call "productive efficiency") and to sell their products to anyone willing to pay a price equal to the firm's marginal costs of producing them (what economists sometimes call "allocative efficiency"). When a firm does not face pressure from competition, it can stay in business even when it does not use the most efficient production technology, and it can raise its profits by charging prices above marginal cost. The firm may win, but society loses, because some consumers who are willing to pay a price equal to marginal cost, but not the higher price that a firm with market power charges, will not obtain the firm's product. This is the inefficiency that results from monopoly: prices are higher and output is lower than if prices were closer to marginal cost. The difference between the higher social surplus generated by competition and the lower social surplus that results when a firm or group of firms has market power is called in economics the deadweight loss from monopoly.

As Judge Posner points out, however, natural monopoly, in the rare cases where it occurs, turns the comparative efficiency of competition over monopoly on its head. A natural monopoly is said to exist in any market where the costs of production are such that it is less expensive for demand to be met by one firm than it would be for that same demand to be met by more than one firm. This occurs when, over a sufficiently large range of output, the addition of each new customer lowers the average cost of serving every other customer. *Total* costs for the natural monopoly firm increase as demand increases; the important feature is that the firm's average cost *per unit* of output declines with increasing demand.

Declining per-unit average cost can occur for three principal reasons. One possibility is that the good or service at issue requires a very large fixed expense that must be incurred no matter how many units are sold. As the firm increases production, those fixed costs can be spread over an ever larger number of units of output, reducing the per-unit average cost. The local telephone network was long considered to fit this pattern. A telephone company must build its network of wires, purchase switching machinery,

4. Omega Satellite Prods. Co. v. Indianapolis, 694 F.2d 119, 126 (7th Cir. 1982).

create databases, and hire personnel before it can transmit its first call. The company recovers that investment by factoring a share of these fixed costs into the retail price of telephone service. With each new subscriber, the phone company can further spread its fixed costs and thereby allocate a lower proportion of those costs to each customer. The cost of each individual's phone service thus declines as the number of callers on the network increases.

A second reason that a firm may have declining per-unit costs—and may be a natural monopoly—does not depend at all on fixed costs. A firm that has already recovered its fixed costs, or that has few fixed costs to begin with, might still have *incremental* costs of production that decline as output increases. In this case, the firm is gaining a cost advantage not by spreading its fixed costs ever more thinly, but instead by experiencing reduced marginal costs for each successive unit of output. This kind of increasing returns to scale could arise for a number of reasons. Machinery might become more fuel- and labor-efficient when operated at higher capacities, or a workforce may become more efficient as it becomes more experienced. Such increasing returns will not often occur over very broad ranges of output and will therefore rarely be sufficient to lead to a natural monopoly, but in theory a natural monopoly could arise even if fixed costs are not substantial.

The third common reason for declining per-unit costs is demand variability. In order to provide satisfactory electric service, your local electric company must be ready to supply you with a great deal of power at any instant, even when you are not currently consuming it. Having all that idle capacity is expensive, however, since your electricity needs are likely modest outside peak times. The same is true for your neighbor, and her neighbor, too, of course. Consequently, if each of you were being served by separate firms, those firms would have significant resources invested in idle equipment. By having a single firm serve all of you, however, the costs of providing electricity can be lowered dramatically. You three can share a given amount of excess capacity, putting the equipment to better use since the variance in each of your demands will cancel out that of the others to some degree, and thus you three can share some of that excess capacity without any of you experiencing a noticeable degradation in service.

For a natural monopoly to exist, it is very important that per-unit costs not only be declining, but also that they be declining over *most of the range of output that the market will demand*. To see why, think about the automobile industry. The fixed costs of automobile production are very high. An automobile maker must build a manufacturing plant, purchase machinery, and install a management system before it can produce its first car. The firm recovers those fixed costs by including a share of them in the price of each car it makes. So the average cost per car decreases as the number of cars produced at the plant increases. Should automobile manufacturing be considered a natural monopoly, then? Probably not. First, if a single plant cannot meet the market's entire demand for cars, then the decline in per-unit costs will stop before all consumers are served. At that point, the firm would have to build a new plant and incur a new set of fixed costs to serve the remaining consumer demand. In such a case, it is no more efficient to have just one firm serve the market, and preventing the entry of other firms would needlessly sacrifice all the familiar benefits of competition—like lower prices, higher output, better quality, and product innovation. Second, even if a single plant could produce enough cars to satisfy consumer demand, it might still not be the case that per-unit costs are declining over a large enough range of output to make the producer a natural monopoly. Fixed costs might be spread so thinly as to be almost zero on a per-unit basis well before the market's demand has been satisfied. In that case, it might be possible for multiple firms to be in the market without affecting each other's ability to reach the most efficient scale of production.

In the following chapters, we will assess whether communications markets are, in fact, naturally monopolistic and whether the regulatory responses have been appropriate.

The second reason that communications markets have tended towards monopoly is the phenomenon of network effects. Such effects arise when the value a consumer places on a good increases along with the number of other consumers simultaneously consuming the good. The basic intuition is this: telephone service is not worth much to me if I am the only one with a telephone (or fax machine, or email account, or any number of other connectivity-based goods), and the value of having a telephone increases based on the number of people that I can call. If more than one network exists and the networks are not interconnected, then consumers will be drawn (all other things being equal) to the network with the greatest number of customers (or, more precisely, the network that consumers expect to have the greatest number of customers). And, eventually, smaller networks will either fail, be absorbed, or focus narrowly on niche services that are more highly valued by a small number of customers.

The telephone network, of course, provides the paradigmatic example of network effects: the more subscribers the network has, the more desirable it is to be on the network. Network effects can also arise in virtual networks and, in the Internet age, have become increasingly common. For example, the FCC, in considering the merger of AOL and Time Warner, found that AOL enjoyed powerful network effects in its instant messaging service. Moreover, based on its view that AOL's installed base of users—and the attendant network effect—would impede competition, the agency ordered AOL to make any broadband instant messaging service interoperable with rival systems.[5]

The AOL instant messaging case study is instructive on two levels. First, it underscores that interoperability mandates—or interconnection requirements, as they are referred to in the case of the physical telephone network—are core competition policy tools to address concerns of monopoly based on network effects. Second, given that the concern related to AOL's monopoly in instant messaging never materialized (and the FCC later lifted the mandate), it is noteworthy that the merits of interoperability mandates are open to question. Indeed, in a number of important communications markets—such as the Internet backbone networks that hand off Internet communications and are owned by firms like AT&T—no such requirements are currently in place.

Network effects and interoperability (or interconnection) mandates have also played an important role in antitrust litigation. In the case against Microsoft, for example, the district court adverted to a different kind of network effect, one that is sometimes called an indirect network effect.[6] Such network effects arise where there is a platform good (such as a computer operating system) and a variety of applications that can be run on the platform. Consumer value for the platform good may depend on the number of applications that are available for it. Generally speaking, applications providers will choose to produce their products for the platform that has the greatest number of customers, thereby creating a positive feedback loop, potentially creating an entrenched monopoly platform.

In the *Microsoft* case, the district court called the positive feedback loop enjoyed by Microsoft an "applications barrier to entry."[7] By that, the court meant that new operat-

5. *See* Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee, Memorandum Opinion and Order, 16 FCC Rcd. 6547, 6627–29 (2001).
6. United States v. Microsoft Corp., 87 F. Supp. 2d 30, 38–39 (D.D.C. 2000).
7. *Id.* at 36.

ing systems (O/S) could not easily enter the market to compete with Microsoft Windows, because, without access to an existing base of applications, consumers would not adopt those new O/S platforms. One can easily think of similar examples, such as the VCR and available movies (which was part of the battle between the VHS and Beta standards) or the more recent fight between Blu-ray and HD DVD. To be sure, as suggested by the AOL instant message example, network effects will not always be strong enough to cause a tipping effect and enable one firm to monopolize the market. Nonetheless, it is incontrovertible that strong network effects can bolster monopoly power and make it more difficult to displace.

It is important, as an analytical matter, to distinguish between network effects and economies of scale. Both can occur at the same time, and, when they do, the push towards monopoly market structure will be strong. But they are different phenomena: network effects operate on the demand side, making the good more valuable to consumers; economies of scale, by contrast, arise on the supply side, making the good cheaper through decreasing marginal costs of production.

Natural monopolies and network effects are the two main ways in which monopolies can arise because of the nature of the service involved. Monopolies can arise in other ways as well. A firm could, for example, merge with another firm such that the combined entity controls one or more markets.[8] Monopolies can also arise as a result of government policies. Indeed, in some circumstances, governments have granted monopolies to particular firms. In the early years of cable television, for instance, local governments often granted cable television providers local monopolies, and the practice continued until Congress prohibited it.

A third market failure justification on which much communications regulation—particularly of broadcasting—has been (at least historically) based is the "public goods" problem. A public good is any product or service for which demand is nonrivalrous—which means that one consumer's consumption of a good does not affect any other person's ability to consume that same good. One person's watching a television broadcast, for example, does not affect any other person's ability to watch that same broadcast signal, unlike the manner in which, say, one person's consumption of a banana makes it impossible for anyone else to consume that same banana. Classic examples of public goods include lighthouses and national defense. The implication of nonrivalry is that the marginal cost of serving an additional customer is zero, which, in classic economics, suggests that the price for the good should be zero as well. That cannot be the case, of course, for television service has initial fixed costs, such as the costs of producing the programs, of erecting the antennae, and of operating the station—and those costs need to be recovered. But a competitive market may underproduce public goods because of the difficulty of setting a price that recovers costs.

In broadcast, the problem of nonrivalry was compounded by the problem of nonexcludability. That is, under the original broadcast technology (but not today), the owner of video programming had no way to exclude nonpaying customers. If a seller can exclude nonpaying buyers (and prevent resale), then the seller may be able to set a price above marginal cost. Still, in competitive markets, the public goods effect can result in underprovision, even if excludability is possible.

8. This is a classic antitrust issue. Chapter Seventeen considers FCC merger review, which often looks beyond the issues that traditional antitrust regulators focus on.

§ 1.A.1.b. Additional Justifications

Market failures are, of course, not the only bases for communications regulation and, in many regards, not the most important. Many aspects of communications regulation respond to concerns that even a well-functioning market might not provide what we want from our communications services.

The most salient of these other considerations is the idea of universal service. The term universal service was actually coined by the Bell System and its visionary leader Theodore Vail, who operated the company under the motto "One Policy, One System, Universal Service." From a regulatory perspective, no efficient market will provide service to everyone, for there will be some set of customers unable (or unwilling) to pay the price of the service—even if the price is nonmonopolistic. When the service is monopolistic or characterized by network effects, the possibility that some people will be priced out of the market is even greater.

Regulation arises to meet this issue in markets in which the good is considered to be a basic good that, for reasons of equality, free speech, or other values, members of the citizenry should be provided even if they cannot themselves afford it. Communications service is hardly the only, or most obvious, possible basic good, as various government programs provide some level of food, housing, medical treatment, education, and certain other goods. One can create economic arguments for universal service of these—that providing them increases total social productivity, at least over the long run—and, as we will see, those arguments have also been deployed for universal service of basic communications. But whatever the economic justifications, equity and equality have usually been the driving factors. Government regulation to further the provision of both basic telephone service and free, over-the-air television has rested on universal service values.

In addition to frustration that a market may not provide service to everyone (at a cost that everyone can afford), telecommunications regulation has sometimes reflected the view that the mix of goods being offered is not acceptable. Communications regulation is often based on the notion that certain services or content have low social value and other services or content have high social value (apart from the values assigned by the market). The law has thus limited indecent communications services, even if the market demands them. Similarly, the law has required communications providers to affirmatively offer certain services—ranging from 911 services to public and government cable channels to educational or children's television programming. Finally, because communications platforms can either enable or limit opportunities for free speech, government regulation can be adopted in service of First Amendment values.[9]

Similarly, to take another modern example that we will discuss extensively later,[10] the debate over network neutrality regulation implicates a number of these dimensions. Advocates of network neutrality regulation argue that broadband access markets are quite concentrated and that this concentration gives broadband carriers the incentive and opportunity to foreclose access to some content and applications. The argument has also been made that network access rules drive deployment of broadband services at lower prices, increasing the percentage of the public that subscribes to broadband. Finally (although this summary is far from exhaustive), network neutrality advocates have said that regulation would further the creation of a participatory speech culture by ensuring the widest

9. *See infra* Chapter Six.
10. *See infra* Chapter Nineteen.

possible use of content and tools that allow individual citizens to participate. On the other side, carriers and others opposing network neutrality regulation argue that market competition is adequate and that such rules will interfere with the incentives to deploy broadband networks and offer new and innovative services; they also argue that network neutrality rules will weaken the ability of providers to stop illegal activity and protect consumers (say, from malware).

§ 1.A.2. Basic Regulatory Tools

Just as many of the arguments for regulation have a few recurring forms, so too do laws and regulations affecting communications industries come in a number of identifiable varieties. The same historical and intellectual inquiry can focus on a basic set of regulatory strategies and tools that are consistently applied in communications and related markets.

The first set of regulatory tools covers the natural monopoly ground. If monopoly is natural, then competition should not be permitted (because it is wasteful). And so common carrier regulation began with a premise of licensing: companies would operate in defined service territories and not be permitted to offer service without a license. Then, because monopolies would otherwise charge high prices, the law required that service be provided at "just and reasonable" rates. In principle, rate regulation could be designed to mimic a competitive market—to allow the regulated company to earn revenues just sufficient to cover its costs and therefore to keep the price for the public as low as possible. Common carriers, including telecommunications companies, were also required to provide their service on a nondiscriminatory basis.

To support these obligations, common carrier law usually required companies to file tariffs, schedules of all of their services and the rates that would be charged for those services. In the case of telephone companies, these tariffs could run to the hundreds of pages. The regulator required the company to submit cost information that would support any rates proposed in the tariffs, and the law would give the regulator the power to investigate, suspend, or refuse any tariff that failed to be "just and reasonable" or nondiscriminatory. This tariff-filing regime has been largely dismantled (for a variety of reasons we will explore). At one time, however, it governed the vast majority of utility and transportation industries, including, of course, telecommunications.

The final common carrier duty—in addition to providing just, reasonable, and nondiscriminatory service—was to serve all who wanted service. At first, the duty simply required that the carrier provide service to anyone in its territory (or line of business) that requested service and was prepared to pay. Later, the government added explicit universal service policies, which have since evolved. In telecommunications, universal service policies began through permitted or mandated internal cross-subsidies—telephone systems were required to offer some services below cost and were permitted to charge above-cost prices for other services in order to cover their total revenue requirements. As we discuss in Chapters Ten and Eighteen, the universal service system has evolved over time.

Although broadcasting and cable television have never been regulated as common carriers, both of those services had somewhat equivalent regulations. Broadcasters were forbidden to offer subscription-based broadcast service: they had to broadcast "in the clear"—signals that were unscrambled and could be seen by anyone who bought a standard receiver. Cable television companies, in exchange for a municipal franchise, were generally required to wire all parts of a city, not just those parts where the income of the residents

made offering such service more profitable. (Municipal franchises also contained other requirements for cable companies, such as mandates to carry and support public, educational, and governmental channels.)

Common carrier regulation responded to the carrier's ability to charge monopoly prices (or only offer monopoly quantities) in its primary markets. But one of the related problems is the tendency of monopoly to expand into related markets, some of which might be competitive or potentially competitive. This, in fact, was one of the central stories of the integrated Bell System. It was probably never the case that telephone handsets were a natural monopoly, and yet the Bell System monopolized that adjunct market. The premise of the U.S. government's 1974 antitrust case against Bell[11] was that, while local telephone service might remain a natural monopoly, at least three related markets—consumer telephone equipment, telephone network equipment, and long-distance telephony—had become at least potentially competitive and that Bell was using its monopoly over the local system to maintain monopolies in these other markets. We discuss this case at length in Chapter Nine.

The first impulse of regulators is often to control the monopolist in all related markets, even if those markets are potentially competitive—and to subject any competitors to the same regulatory structures. Thus, water carriers and motor carriers (i.e., ships and barges and trucks) were brought into the same highly regulated structure as the railroads: licensed, required to file tariffs, and rate regulated. Regulation's second response (manifested through antitrust law, at least in the Bell case) is to segregate the monopolist and to forbid it to operate in the potentially competitive market. The government's first antitrust case against Bell[12] resulted in a consent decree that restricted Bell to common carrier communications markets (ruling out, for example, its entry into computer markets). The government's second antitrust case resulted in a 1982 decree breaking up the company based largely on monopoly versus competitive lines of business. Thus, the decree included a line-of-business restriction that forbade the local Bell Operating Companies (BOCs) from offering long-distance service, consumer premises equipment, or network equipment. The theory was that, if the BOCs were restricted to their monopoly markets, they would deal equally with all companies in the competitive markets (although the decree also included an "equal access" provision for good measure). Finally, when the costs of structural separation requirements were considered to be too great, regulation moved to open-access rules or other rules designed to provide some assurance to companies in competitive markets needing access to the monopolized service that they could purchase network access (or network elements) at nondiscriminatory prices. This progression, while dominant, was neither uniform, uncontested, nor inevitable, as we will see in later chapters.

Some of the same impulses of government management of market forces also manifest themselves in spectrum regulation. Although the need to control interference was a basic justification for licensing, licensing also allowed the FCC to exert economic control over the industry. In issuing licenses, the FCC went far beyond policing against interference. Rather, the FCC identified particular communications services that were in the public interest and issued licenses that were restricted to particular services. Thus, a company that won a license to offer a paging service could not, on the same spectrum in the same location, decide instead to offer video services, even if it concluded that video service is

11. United States v. American Tel. & Tel. Co., 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.* Maryland v. United States, 460 U.S. 1001 (1983).
12. United States v. Western Elec. Co., 1956 Trade Cas. ¶68,246 (D.N.J.).

what the market preferred. This allowed the FCC to consider market structure issues in establishing licenses. That is, the FCC expressly took into account industry viability in determining how many licenses to issue in a particular service, and sometimes limited the number of licenses in order to protect licensee profits (which might overcome "destructive competition" or public goods effects).

On the content side, fewer generalizations are possible. Congress and the FCC both instituted mandatory service requirements and prohibitions. Telecommunications carriers were required to provide emergency services and to engineer their networks in ways that assisted law enforcement; they were also required to protect consumer privacy. Broadcasters were, at times, required to cover issues of public interest, to allow rights of reply, to sell cheap advertising to political candidates, to provide educational programming, and to avoid indecency. Indeed, the regulation of content and market activity need not be logically joined, and some countries, such as Canada, have different agencies licensing spectrum and content.

§ 1.A.3. The Challenges of Regulation

So far, we have discussed the benefits of regulation and its use as a set of legal tools designed to correct problems (real or perceived). But what of its costs? Part of the movement towards deregulation since the late 1970s reflects an increased appreciation for (or at least an increased focus on) the costs of regulation and the potential negatives of a regulatory system. In other words, modern regulatory analysis consists of a cost/benefit analysis not just of the industry that regulation seeks to address but also of regulation itself.

The most obvious cost of regulation is the cost of the regulatory structure itself. The FCC's budget is over $300 million, covering about 2000 Commission employees. One can add the cost of parallel state regulators, judicial costs created by litigation under communications regulation, and, from the perspective of industry at least, attorneys' fees required by the existence of regulation.

Beyond these direct costs is the potential that regulation itself creates market distortions. When companies must ask regulatory permission in order to enter new businesses or offer new services, they must incur the expense of regulatory applications. But the process also creates the opportunity for others to gain through the regulatory system. At a minimum, the disclosure required by the application process can eliminate an advantage of being first to market with an innovation. More problematically, the process can allow incumbents to oppose new applications that threaten entrenched market positions. Thus, to return to one earlier example, if the hypothetical paging operator filed an application to begin to offer broadcasting services because it perceived additional market demand for such services, one could expect existing broadcasters to oppose the application. The incumbents might contend that the applicant was wrong on the facts about the market, or they might contend that, if there were unmet market demand, FCC action to allow them (the incumbents) to serve it would better further the "public interest."

Such a scenario highlights two further problems. The first is the informational problems of regulation. If the FCC is to make the licensing decision based on whether or not unmet demand exists, then the FCC must have the ability to investigate such demand or at least to assess the conflicting evidence and expert testimony presented by the parties. This example pales in comparison to the informational demands of rate regulation. In such a system, the regulator must be able to penetrate the cost information provided by the regulated company to determine whether claimed expenditures actually occurred and

whether those expenditures were reasonable. In the opinion in which it approved the Bell breakup, the district court considered the alternative of a regulatory injunction—essentially an order forbidding anticompetitive behavior that the court itself would supervise. In dismissing that option, the court commented on testimony that it had received on the effectiveness of FCC regulation:

> Two former chiefs of the FCC's Common Carrier Bureau, the agency charged with regulating AT&T, testified that the Commission is not and never has been capable of effective enforcement of the laws governing AT&T's behavior. In their view, this inability was due to structural, budgetary, and financial deficiencies within the FCC as well as to the difficulty in obtaining information from AT&T. Whatever the true cause, it seems clear that the problems of supervision by a relatively poorly-financed, poorly-staffed government agency over a gigantic corporation with almost unlimited resources in funds and gifted personnel are no more likely to be overcome in the future than they were in the past.[13]

This is obviously not a sanguine perspective on the effectiveness of telecommunications regulation.

The second problem may require a fundamental reconception of the regulatory system. So far, we have essentially told what is sometimes called the normative story of regulation: the government perceives a problem, and then it acts in the (perceived) public interest to solve that problem. The alternative view of regulation is sometimes called the positive view of regulation—that is, that regulation is itself a system and that all interested parties seek to further their own interests by acting within the system. It requires little imagination to realize that, when regulation exists, the regulated companies themselves will make arguments that serve their own narrow economic interests instead of the broader public interest.

But broaden this perspective from the regulated entities to encompass the legislators, regulators, judges, and others in a regulatory system, and assume that each of these types of entities has its own interests, and one can generate a much different criticism. "Public choice" economics began to evaluate regulatory systems from this perspective in the 1960s and 1970s and became part of the intellectual movement supporting deregulation. Public choice theory assumes that all government actors maximize, at least in part, their own private goals, so that the key question regarding public actors is what they want to maximize. Consider, first, legislators. The basic premise is that those who desire to become legislators (for whatever personal reasons) desire principally to remain legislators. In some cases, they may adopt policies that are broadly popular, even if they are not economically efficient. For example, legislators may demand from telephone service providers reduced prices for residential consumers—a service that most voters care very much about, even if cross-subsidization would cause inefficiently high prices for business services. Businesses don't vote; individual households do. In other cases, legislators may maximize their chances of being reelected by adopting policies that respond to industry desires, because industry is in a position to offer greater campaign contributions, and such contributions are necessary to reelection campaigns. Alternatively, rational legislators may threaten regulation against incumbents but, after raising campaign contributions, then take no action at all.

Regulators may have similar personal interests. If one values being a regulator, then one may value even more being an "important" regulator, which means seeking to ex-

13. American Tel. & Tel. Co., 552 F. Supp. at 168.

pand the regulatory scope of one's office or agency. Relatedly, an agency that regulates more or that charges higher industry fees may fund higher salaries or more nonsalary perks, such as cars and drivers for busy commissioners. Alternatively, a rational regulator may recognize that most regulators serve limited terms and, in considering future employment options, may realize that employment within the regulated industry (or as a lawyer or lobbyist representing the industry) is the most likely and most remunerative path. This may constrain a regulator's desire to take actions adverse to industry. Even apart from narrow self-interest, industry may be more present in a regulator's life, due to better funding, better advocacy, and more frequent appearances. For all of these reasons, a regulatory body may become captured by the industry it regulates.

For their part, members of the industry should be expected to make arguments that are in their own economic interest. But the public choice perspective on the regulatory system takes this insight a step further. Regulation can give companies a competitive advantage just as surely as can a new technology or good advertising or any other business feature. In the context of traditional regulation, where companies are not permitted to provide service without a government license, legal barriers to entry are absolute and can be much more permanent than any economic barrier. As dominant as the Bell System was when long distance was provided by copper-wire cable, the invention of microwave transmission technology (MCI: Microwave Communications, Inc.) radically changed the economics of long distance and made competition (more) possible. And yet MCI needed the FCC's permission to offer each new kind of service, which gave AT&T the opportunity to fight.

When viewed as yet another competitive tool, regulation therefore becomes just another place in which companies may invest—and they should rationally invest in regulation that benefits them (and injures their competitors) to the point where the returns from such investment are balanced by the costs. In other words, companies will not simply live within pre-existing regulation and manage it in the best way possible. Companies will sometimes affirmatively seek legislation and regulation that is solely in their economic interest (and, often, adverse to their competitors').

To be sure, public choice theory does not necessarily explain everything, and some notable legislative and regulatory acts (such as airline deregulation) defy public choice explanations. Moreover, we believe that legislators and regulators usually act in what they perceive to be the public's best interests, all things considered. Nonetheless, we also believe that the public choice lens is an important perspective to consider when evaluating any given policy.

§ 1.B. A Policy Analysis Framework

This chapter is not meant to be exhaustive, but rather to provide an introduction to some of the major issues that cut across all of telecommunications policy. In the next chapter, we turn to some of the history of the sector-specific regulation that covers communications and to the specific institutions that administer communications law. Then, in the main corpus of the casebook, we will turn to the specific legal and policy controversies. As we do so, however, we hope that the foregoing text provides something of a structure for considering specific areas of communications law and policy. The list below provides a checklist of sorts for considering particular issues using the framework set out above:

- What, if any, are the market failures said to justify the proposed government intervention? Do the asserted failures match up with a well understood economic theory? How do they match up with the historical bases for regulation?

- What are the other asserted justifications for the regulation? Who in particular is the regulation supposed to help?
- What will the government need to know in order to administer the proposed regulation effectively? Where will it gather this information, and how will it know whether it is reliable?
- Other than the intended consequences of the regulation (i.e., meeting the asserted needs), what are the likely market and nonmarket effects of the regulation? Is it possible that the regulation will entrench existing players and provide a barrier to entry to innovative upstarts?
- How will the government assess whether its regulation is working?
- Can the regulation be explained as a product of public choice theory—in the interests of the regulators and/or the regulated, narrowly conceived, rather than in the interests of the public generally?