

**Experimenting With Governance for U.S. Broadband Infrastructure:
The Wisdom of Retaining or Dismantling Prior Legal Innovations**

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INTRODUCTION

To achieve desired emergent properties of social systems, such as political and economic systems, requires experimentation. “[D]emocracy itself is an experimental system” of political governance (Ferris, 2010, p. 2); and “markets ... by their very nature involve constant experimentation” (Ferris, 2010, p. 169). “Liberal democracies and free markets conduct experiments — and respond, however imperfectly, to the results — every day” (Ferris, 2010, p. 234).

The founders of the United States often referred to the new nation as an experiment (Ferris, 2010, p. 101). Fear of anarchy under the Articles of Confederation created the crisis that led to the Constitutional Convention of 1787. Fearing excess of power in *any* hands while acknowledging the anarchy of a too weak federal government, the framework of the U.S. Constitution based on federalism was an emergent solution evolving from compromise. Federalism provides for shared sovereignty among a federal government and sovereign states, where “government [does] not provid[e] answers, but rather ... provid[es] a framework in which the salient questions could continue to be debated” (Ellis, 2007, p. 123). In so doing, federalism provides mechanisms for both experimentation and stability to enable sustainability of the nation (Cherry, 2007, p. 372).

Under federalism, the U.S. has experimented with various legal rules and mechanisms for curbing abuse of economic power as well as facilitating the development of essential network infrastructures. Building on principles of English common law within its constitutional framework, U.S. lawmaking has undergone various phase transitions. During the Industrial Revolution of the nineteenth century and continuing into the twentieth century, these included the evolution of new bodies of common law, the rise of statutorification to speed up lawmaking, and the creation of independent administrative agencies with delegated lawmaking and adjudicatory powers over specific industries. During the Information Revolution of the latter portion of the twentieth century, the U.S. entered a phase of experimentation with deregulatory policies in order to reap benefits expected from greater reliance on competition.

This paper examines how recent U.S. experimentation with deregulatory telecommunications policies is dismantling prior legal innovations, and in a radical manner as compared to deregulatory policies in the transportation sector. It stresses that the *statutory framework in the U.S.* – from which deregulatory policies are evolving – *was the result of successive layers of centuries-old policy evolution and legal innovation*: (1) The foundational layer is the English common law of common carriage (that is *not* based on monopoly power); (2) which continued to evolve within a republican structure of federalism under the U.S. Constitution; (3) followed by the development of the common law of public utilities to address certain societal and economic problems arising from technological innovations in network infrastructures providing essential services; and (4) finally, to address inadequacies under the common law, enactment of federal legislation to regulate interstate commerce (under which states retained jurisdiction over intrastate commerce) for which independent regulatory agencies were created to oversee implementation for specific network infrastructure industries – initially railroads, and soon followed by telegraphy and telephony.

These layers of legal innovations were emergent solutions – or experiments – to policy sustainability problems often perceived as crises, each evolving to address abuse of government or commercial power and the needs of interstate commerce. These solutions also bore a common characteristic – providing a legal framework of experimentation through ongoing negotiation on a case-by-case basis to apply legal rules or principles to changing circumstances over time.

Unfortunately, many of these legal innovations have been dismantled under U.S. deregulatory telecommunications policies, reintroducing historical problems and associated instabilities as well as creating new problems due to growing interconnectedness of differing network infrastructures, and thereby fueling future crises. The network neutrality debate, the falling worldwide broadband ranking of the U.S., and the development of a U.S. national broadband plan represent a new phase of experimentation for a legal framework. Importantly, this experimentation has been triggered not only by technological innovation but also by the FCC's decision not to apply Title II (common carriage) classification to broadband Internet access services. Viewed through a deeper historical understanding of the experimental nature of developing governance for network infrastructures, such a "new" framework will likely result in reinstatement of legal principles characteristic of the previous industry-specific common carriage regime and associated legal innovations to broadband.

The analysis in this paper starts with Section 1, which stresses the importance of framing inquiry and conducting research with appropriate focus on the temporal dimensions of the affected social processes. For analyses of deregulatory policies, focusing on the coevolution of economic and political systems over long periods of time is essential. Section 2 discusses that such coevolution created both industry-specific and general business legal regimes in the U.S., from which deregulatory policies are being considered, through legal and policy experimentation over centuries. Sections 3 through 5 proceed to examine specific mechanisms and stages of this experimentation that culminated in the federal statutory regimes of common carriage and antitrust law, from which deregulatory transportation and telecommunications policies have been adopted or are continuing to be pursued: under the common law, within a constitutional framework of federalism, and the rise of statutorification (legislative lawmaking) during the nineteenth century. Section 6 reviews the temporal misframing of many recent analyses purporting to evaluate or recommend broadband policies that serves to block learning from the experimentation that has been occurring under deregulatory policies. By either ignoring or improperly framing the temporal dimensions of the evolution of the law of common carriage, valuable insights from prior deregulatory transportation policies have been forgone. Experience under deregulatory transportation policies not only foreshadows sustainability problems occurring under deregulatory telecommunications policies, but also reveals the radical nature of policy experimentation with broadband as a non-common carriage service. The paper concludes with Section 7, reviewing the important sustainability properties of the policy evolution and legal innovations underlying common carriage (and public utility) regulation in the U.S. It stresses that the fundamental obligations of common carriage under the duty to serve provide a framework for ongoing experimentation — much like the algorithm of shared sovereignty under federalism — that has inherent sustainability properties. The adaptive properties of these obligations, under common carriage and public utility status, were consistently applied to new technologies throughout the Industrial Revolution from which widely available, affordable and reliable network infrastructures emerged. Foregoing application of such obligations to broadband is indeed a radical policy experiment. For a widely available, affordable and reliable broadband infrastructure to emerge, the radical policy trajectory will likely need to be reversed.

1. UNDERSTANDING TEMPORAL DIMENSIONS OF SOCIAL PROCESSES

Because both economic and political systems are highly path dependent, analyses underlying recommendations for policy change require "theoretical understandings of the different ways in which 'history matters'" (Pierson, 2004, p. 6). Pierson stresses that "[r]eal social processes have

distinctly temporal dimensions. Yet an exploration of these temporal dimensions of social processes is precisely the weakest link in social science's historical [development]" (2004, p. 5). Moreover, "[m]any of the key concepts needed to underpin analyses of temporal processes, such as path dependence, critical junctures, sequencing, events, duration, timing, and unintended consequences, have received only very fragmented and limited discussion" (Pierson, 2004, pp. 6-7). In politics, path dependent processes are likely to yield multiple equilibria, contingency (small events can have large and enduring consequences), a critical role for timing and sequencing, and inertia (Pierson, p. 44). The theoretical implications are that "[w]e need to change both the kinds of questions we ask about politics and the kinds of answers that we generate" (Pierson, 2004, p. 44).

Eminent scholars whose work emphasize the temporal dimensions of social processes include Douglass North (1990, 2005), Nobel Laureate in economics, John Kingdon (1995), winner of the Aaron Wildavsky Award in political science, and Paul Starr (2004), a sociologist and winner of the Pulitzer Prize. The temporal dimensions of social processes and their attributes described by Pierson also exemplify the characteristics of non-linear dynamic systems, or complex adaptive systems. Recent research, including much of my own as well as some colleagues, has emphasized the temporal dimensions of economic and policymaking systems in applying a complexity theory perspective to examine sustainability problems of communications policies.¹

Reflective of Pierson's analysis that research needs to embody recognition of the temporal dimension of social processes, this paper integrates analyses in my prior research that stress the importance of understanding the temporal dimensions of the evolution of the industry-specific regulatory regimes for common carriers and public utilities and of the general business regimes of antitrust and consumer protection laws. In his book, Pierson "seek[s] to demonstrate the very high price that social science often pays when it ignores the profound temporal dimensions of real social processes. The ambition, in short, is to flesh out the often-invoked but rarely examined declaration that history matters" (2004, p. 2). Similarly, my own research emphasizes the flaws in many others' analyses of network neutrality and deregulatory policies that arise from numerous errors in, or failure to appreciate, temporal dimensions of the evolution in legal rules and regimes. Such errors include failure to use the original common law regime and misuse of the statutory regime of common carriage as the frame of reference for purposes of evaluating future policy options (Cherry, 2006), as well as the failure to acknowledge the implications of the temporal sequencing of the industry-specific and general business regimes where the former largely predates the latter (Cherry, 2010).

In his analysis, Pierson identifies some fundamental social mechanisms that have a strong temporal dimension and explores how these mechanisms often suggest new hypotheses and extend theoretical work in new directions (Pierson, 2004, pp. 6-7). These mechanisms include: the dynamics of *self-reinforcing or positive feedback processes* that underlie path dependence; timing and sequence that result in *conjunctures*, or "interaction effects between distinct causal sequences that become joined at particular points in time" (Pierson, 2004 p. 12);² and the combination of path dependence and timing/sequencing that have "[p]ositive feedback processes

¹ See, e.g. Cherry (2007, 2008a, 2008b), Cherry & Bauer (2004), Whitt (2009), and Longstaff (2005).

² " 'Critical junctures' generate persistent paths of path development" (Pierson, 2004, p. 51, footnote omitted). Causes of critical junctures may be large-scale, dramatic events, or seem relatively small compared with their effects. "What makes a particular juncture 'critical' is that it triggers a process of positive feedback" (Pierson, 2004, p. 51, fn. 26).

occurring at particular times [that] essentially remove certain options from the menu of political possibilities” (Pierson, 2004, p. 12) and thereby create *irreversibility*. Likewise, the complexity theory perspective addresses the distinctive properties of complex systems arising from mechanisms such as those Pierson identifies, which include: “*catastrophes* resulting from discontinuity in sudden jumps in system behavior; *chaos* resulting from unstable aperiodic behavior and sensitivity to initial conditions; *uncomputability* because system output transcends rules; *irreducibility* because system behavior can not be understood by decomposing the system into parts; and *emergence* of order that spontaneously develops as collective properties from interacting system components” (Cherry, 2007, p. 380, emphasis in original).

Given these social mechanisms, Pierson then engages in “a more systematic discussion of big, *slow-moving* aspects of the social world [,] ... examines a wide range of processes that cannot be understood unless analysts remain attentive to the unfolding of both causal processes and important political outcomes *over extended periods of time* [,] ... [and] explores a range of different causal processes and outcomes that may unfold *over substantial stretches of time*” (2004, p. 13, emphasis added).³ These include “lengthy, large-scale historical processes such as democratization or state building” (Pierson, 2004, p. 13). He asserts “[a]nalytists who fail to be attentive to these slow-moving dimensions of social life are prone to a number of serious mistakes” (Pierson, 2004, p. 14). They may ignore potentially powerful hypotheses, focus explanations on triggering or precipitating factors rather than more fundamental structural causes, invert causal relationships, or fail to even identify some important questions about politics (Pierson, 2004, p. 14).⁴

Analogously, for purposes of evaluating the effects of deregulatory policies and making future recommendations for broadband policies, much of my research emphasizes understanding the legal processes and mechanisms by which legal rules and regulatory regimes evolve over long periods of time. In the U.S., distinctive processes include common law evolution within the judicial branch and statutorification by state and federal legislatures. Furthermore, such processes operate within a governance structure based on federalism — a political and legal innovation at the nation’s founding — in the U.S. Constitution. This paper discusses how the regulatory framework from which deregulatory telecommunications and broadband policies are evolving was the result of *successive layers of centuries-old policy and legal evolution*. These layers of innovations were emergent solutions, or experiments, to policy sustainability problems often perceived as crises. Furthermore, the solutions themselves often provided mechanisms for further policy experimentation over time. When viewed from an historical perspective and with an appreciation of the mechanisms for law/policy making over an extended period of time,

³ “Some causal processes and outcomes occur slowly because they are incremental...In others, the critical factor is the presence of threshold effects.... Other social processes involve considerable time lags between the appearance of a key causal factor and the occurrence of the outcome of interest” (Pierson, 2004, pp. 13-14).

⁴ Pierson claims that a number of trends seem to have pushed comparative inquiry toward a focus on short-term processes (2004, pp. 98-100): prevalence of statistical analyses using techniques of multiple regression; unlikelihood of incorporating long term processes in quantitative studies unless the theories that analysts employ point in this direction; prevalence of rational choice analyses that emphasize the individual as the unit of analysis; the difficulty of stretching game-theoretic approaches over extended spaces or long time periods; and emphasis on economics orientation when a sociological one may be more appropriate.

unlike the temporally truncated analyses of many contemporary commentators, the radical manner by which deregulatory policies have dismantled prior legal innovations for broadband becomes clear. Not only specific rules, but also experimental mechanisms for future adaptation, have been eliminated.

2. UNDERSTANDING U.S. LEGAL AND POLICY EXPERIMENTATION FOR ESSENTIAL NETWORK INFRASTRUCTURES

The political and economic systems are coevolving complex adaptive systems (Cherry, 2007). Through experimentation, intended or unintended, desirable properties have emerged from institutional infrastructures supporting both political and economic systems. After long periods of evolution of social systems, these emergent properties include the rule of law for certain political systems and economic efficiency (or the “invisible hand”) under certain conditions for markets under capitalism (Cherry, 2008b, pp. 12-15). Both the rule of law and market economies first emerged in the Western World (Tamanaha, 2004; North, 2005.)

Further evolution of political and economic systems in the context of technological innovations, particularly during the Industrial Revolution, has supported the development of critical network infrastructures with the emergent properties of widespread availability, affordability and reliability (Cherry, 2008a). These infrastructures include myriad forms of transportation, power, and communications systems.

Sections 3 to 5 identify mechanisms of legal and policy experimentation as well as important stages of legal innovation that underlie the evolution of U.S. industry-specific regulatory regimes for essential network infrastructures that have sustainably supported the development of essential network infrastructures with the desired emergent properties of widespread availability, affordability and reliability. In so doing, it reveals that the regulatory framework from which deregulatory policies are evolving was the result of successive layers of legal experimentation and innovation that accumulated over centuries. Section 6 then discusses how the recent experimentation of broadband policies in the U.S. has dismantled the foundational layer of legal rules underlying the industry-specific regime. Through elimination of the basic principles of common carriage, broadband policy is radical relative to deregulatory policies for transportation industries and disables the fundamental legal mechanisms that provided experimentation for future adaptation.

3. EXPERIMENTATION UNDER THE COMMON LAW SYSTEM FOR PUBLIC SERVICE COMPANIES

The common law system is law that is developed by judges through case law, which gives great weight to precedent by a principle known as *stare decisis*. The common law system originated in England in the Middle Ages and spread to nations that trace their legal heritage to England as former colonies. The English common law was the foundation of the law in the American colonies, coexisting and continuing to evolve after the nation’s founding under the U.S. Constitution. Important common law duties under tort law evolved for businesses engaged in public employments during the Middle Ages, and have been retained for certain industries such as common carriers after the transition to market economies and the rise of contract law. These common law duties constitute the foundational layer of legal principles for the industry-specific regimes of many transportation and communications industries providing essential network infrastructures. The common law origins of these principles are discussed in this Section.

Section 5 further discusses layers of the industry-specific regimes that evolved through statutorification, within the governance structure of federalism in the U.S. discussed in Section 4.

3.1. Common Law Origins During Feudalism: Public Callings

From medieval times under English common law, “public callings” (or “common callings”) bore unique obligations under *tort law* merely by virtue of their *status* as public employments. Public callings were simply undertakings to serve the public,⁵ unlike the performance of services within the feudal relation of lord to man that was considered private employment. During the medieval period, the state of society was so primitive that most economic activities were conducted in the context of private rather than public employments (Burdick, 1911, p. 522). Moreover, public employments bore obligations as a matter of law under tort law, as the common law of contract did not yet exist.⁶

Public callings included not only common carriers and innkeepers, but also other occupations such as blacksmiths, surgeons, tailors, barbers, bakers and ferrymen.⁷ The tort obligations of public callings are a duty to serve all upon reasonable request without unreasonable discrimination at a just and reasonable price and with adequate care.⁸ The tort obligations borne by public callings were based solely on their status as public employments and not on the existence of monopoly.⁹ The duty to serve was imposed under local custom, or custom of the realm (Payton, 1981, pp. 123-131). In addition, one of the grounds underlying the common law obligations of innkeepers, blacksmiths and common carriers is that they “were essential to travelers, a uniquely vulnerable class of people whose safety and well-being were important for the good of the realm” (Payton, 1981, p. 130).

3.2. Transition to Capitalism: Survival of Common Law Duties for Some Public Callings

During the latter part of the seventeenth century, most trades began to do business as public employments, so the concept of a public calling began to lose its significance (Stone, 1991, pp. 29-30; Burdick, 1911, p. 522). By the end of the eighteenth century “[i]n ordinary trades there ceased to be any need for a distinction between the *common* and the private exercise of trade” (Adler, 1914, p. 157, emphasis in original). “Although the original economic reasons for the idea of ‘common’ calling disappeared, the concept underwent an important transformation (Stone, 1991, p. 29).¹⁰

“Certain kinds of businesses, ... most notably common carriers by land and water and innkeepers, were treated differently, ... mark[ing] the beginning of the idea of the public service

⁵ “The term *common calling* meant that the practitioner of an occupation (1) performed the occupation as a means of livelihood and (2) held himself out to serve the public at large, as distinct from performing the services exclusively under private arrangements” (Payton, 1981, p. 147 n. 1).

⁶ For a discussion that the common law obligations of public callings arose under the English common law of tort, see Cherry (1999), pp. 8-10. See also Burdick (1911), at pp. 516-517.

⁷ For a discussion of public callings, see generally Adler (1914).

⁸ See Adler (1914) at pp. 159-161; Stone (1991), at pp. 29-30; Payton (1981), pp. 122-136, 144. For brevity, throughout this paper the tort obligations will be referred to as the “duty to serve”.

⁹ For a discussion that classification of a public calling is not based on the existence of monopoly, see Adler (1914), at pp. 146-152, 156; Stone (1991), at p. 29; Payton (1981), at pp. 130-131.

¹⁰ “[M]any commentators have noted the remarkable capacity of common law judges to transform concepts and ideas that originated in feudal and agrarian England into ones that are functional in a capitalist industrial society” (Stone, 1991, p. 29).

company.” (Stone, 1991, p. 30).¹¹ The common law tort obligations of public callings remained for these kinds of businesses, even with the rise of the common law of contract that came to govern most general business transactions. The duty to serve had come to be “justified on the grounds of public necessity”, or public policy, which in turn justified the historically corollary duty to charge a reasonable price that was no longer imposed upon those engaged in private businesses (Burdick, 1911, p. 528). “Thus, certain occupations, because they did things that were public in nature (as yet undefined), were under a special set of obligations that included the duty to serve all impartially and adequately” (Stone, 1991, p. 30).¹² Stone (1991) further explains why the concept of the public service company was not, at the time, further defined.

When the public service company conception was devised in the late seventeenth century, there was little need to define the idea sharply. Few businesses were covered, and most important, the number of new businesses that might conceivably be included — namely, those in communications and transportation — did not expand significantly until the major technological breakthroughs of the nineteenth century. Moreover, the sharp intellectual division between what the appropriate roles are for state and free market that began during the time of Adam Smith had not yet taken root. Consequently, there was no great need for the courts or other policymakers to sharpen the conception of the public service company. The short list of industries covered, reasoning by analogy and the common law’s mechanism of rule by precedent, provided sufficient guidance. (p. 30)

3.3. Nineteenth Century Development of Public Utilities Through Franchises

Due to the rise of new technologies (including transportation and communication) during the Industrial Revolution, the nineteenth century was a period when the concept of the public service company needed to be refined and clarified (Stone, 1991, p. 31). “Before the arrival of regulatory agencies, policies for public utilities were made by judges employing an evolving common law and legislators promulgating rules in new situations” (Stone, 1991, p. 26).¹³

During the nineteenth century the growth of the law of public service companies was due to government grant of franchises, broadly defined. Social and economic development during this time gave rise to conditions “which have been held increasingly to necessitate and to justify the grant to private individuals and enterprises of the exercise of powers or privileges not otherwise inhering in such individuals and enterprises” (Burdick, 1911, p. 616). “[A] franchise is a right, privilege or power of public concern” (Burdick, 1911, p. 616, quoting *California v. Pacific Railroad*, 127 U.S. 1, 40 (1888)). Franchises are of two types, the “power to do” and the “right to be” (e.g. grant of corporate charter) (Burdick, 1911, p. 616). It is the “power to do” that is of primary interest here.¹⁴ Governmental powers most frequently sought for furtherance of

¹¹ See also Burdick (1911, p. 515) (Public or common callings were the original public service companies); Stone (1991, p. 29) (“The public service company concept can be traced back to the fourteenth-century idea of a ‘common calling.’”).

¹² The phrase “as yet undefined” refers to language quoted from the case *Lane v. Cotton*, 12 Mod. 472 (1701).

¹³ Judicial development of the concept of public utilities in the U.S. during the nineteenth century is discussed at length in Levy (1957).

¹⁴ See Section 5.1 regarding the significance of the development of general incorporation statutes.

private enterprises are the general power of eminent domain, the power to use public streets and highways, the privilege of exclusive performance of some undertaking, or use of state funds or credit (Burdick, 1911, p. 617).

Under the police power to regulate, state policies were designed to promote the development and expansion of industry while assuring that business activities operated to promote the common good (Stone, 1991, p.18). “On the one hand, states would promote enterprises through regulatory, licensing, subsidy, or other policy instruments. On the other, the activities of these enterprises could be curbed or compelled to operate for the public good through the police power” (Stone, 1991, p. 18). “[W]hen the required regulation was very extensive, the industry or activity was called a public service or public utility” (Stone, 1991, p. 18).

It is the acceptance of a franchise that carries with it the common law duty to serve.¹⁵ Even if not expressly stated, the duty to serve is presumed to have been intended by the legislature in creating a public franchise (Burdick, 1911, p. 630). “[I]n the English and American common law ... the duty to serve [was] justified variously because the company exercises delegated governmental power, offers an essential public service, controls an artery of commerce, or has a monopoly” (Payton, 1981 p. 138).

The railroad was the quintessential public service in the nineteenth century, followed by telegraph and telephone companies (Stone, 1991, pp. 20-50). Through the grant of government franchises, some businesses bore the duty to serve as public utilities even though they were not common carriers, such as gas and electric utilities. Yet, because railroad as well as telegraph and telephone companies also received government franchises,¹⁶ all these companies bore the duty to serve on two legal bases — *both* as common carriers and public utilities. It is under the public utility obligations, however, that their facilities and services became even more widely available and more affordable to more people, businesses, and geographic areas.

3.4. Growth in the Scope of the Duty to Serve

The “scope” of the common law duty to serve also evolved over time, where “scope” refers to the range of circumstances under which a public utility must serve: to serve up to existing capacity; to extend facilities; to expand its business; or to restrict discontinuance of service or abandonment of facilities. During the medieval period, a public calling had to *serve within its existing capacity* but was generally not liable for refusal to serve if existing facilities were exhausted (Burdick, 1911, pp. 521, 528-529). However, as the common law of public service developed during the nineteenth century, the scope of this basic duty expanded to address varying ways in which the duty was being evaded as well as in the context of monopoly franchises. These include the duty to extend facilities and an exit barrier to discontinuance of service or abandonment of facilities.

“Public service companies must *extend their facilities* so as to meet reasonable demand” (Stone, 1991, p. 49, emphasis added).

¹⁵ See, e.g., Burdick (1911, p. 627) (“The authority to the effect that the grant of the power [eminent domain and use of streets and highways] carries with it this correlative obligation [duty to serve] is overwhelming”).

¹⁶ Railroads and telecommunications carriers were granted the privilege to access public rights-of-way, sometimes eminent domain, and the right (but not always exclusively) to serve.

[T]he easiest way to evade responsibility to serve all is to arrange service in such a way that many would-be customers are excluded. This leads to the ... crucial obligation: to serve the public adequately. The word *adequate* is, of course, a relative one dependent on the technological and economic capabilities of the firm and industry under consideration. ... [I]n an 1895 case a telegraph company was required to expand its business. “But it is the duty of the telegraph company to have sufficient facilities to transact all the business offered to it for all points at which it has offices.” (Stone, 1991, p. 49, emphasis in original, quoting *Leavell v. Western Union*, 21 S.E. 391, 392 (N.C., 1895))

Thus, a public service company can be required to expand its business in the form of extending its facilities in order to preclude selective refusal to serve customers. Extension of facilities in such situations is considered a requirement to provide *adequate* facilities.

However, the obligation to extend facilities is not without limit. As an implied duty, the obligation to extend facilities arises from the holding out to serve the public by a common carrier or from the terms of the franchise granted by government to the public utility. It is in this respect that the requirement to extend facilities is necessarily a determination to be made under the circumstances prevailing in specific cases, and thus the concept of the “existing service territory” arose.¹⁷

4. EXPERIMENTATION TO ESTABLISH A SUSTAINABLE REPUBLIC AND THE INNOVATION OF FEDERALISM

The evolution of public service companies under the common law during the nineteenth century occurred within the governance structure of federalism established in the U.S. Constitution. In this regard, the evolution described in Section 3 was primarily *state* common law evolution. As will be discussed in Section 5.2, limitations of common law development contributed to the need for further evolution of public service company obligations. This occurred initially under statutory lawmaking in some states, and later under federal statutory lawmaking to address the needs of interstate commerce. However, before discussing the innovative statutory phases, it is important to understand the governance structure of federalism — and the perceived crisis for which federalism was the emergent, innovation solution — that guided these legislative energies.

4.1. The Threat of Anarchy to the Republic and Interstate Commerce

Having won independence from England, the greatest institutional challenge after the American Revolution was to establish a *sustainable republic* among the States. The initial framework provided in the Articles of Confederation that were ratified in 1781 created a weak federal government that “accurately reflected both the ideology that justified the American Revolution as well as the mentality and experience of most American citizens” (Ellis, 2007, p. 92). However, after only a few short years, “*anarchy* seemed to threaten, for the Revolution had unleashed new expectations and a new rhetoric of equality and political participation. These new ideas threatened a social revolution that would destroy not only their own fortunes but also the rule of law” (Berkin, 2002, p. 5, emphasis added).

¹⁷ For a good discussion of the duty to serve with an existing service area, see *Metcalfe Telephones Limited v. McKenna*, [1964] R.C. S. 202, reversing (1963), 85 C.R.T.C. 157 (B.T.C.). Although a Canadian case, the U.S. and Canada have the same common law heritage in this regard.

Fundamentally, the threat of anarchy to the republic arose from divisive relationships among the sovereign States, creating what James Madison referred to as political vices. Such vices included the States' failure to honor their tax obligations during the war and to fund veterans' pensions after the war; encroachment on federal authority by the States signing their own separate peace treaties with Indian tribes; and a wide variety of state laws, lacking any uniform system of justice (Ellis, 2007, p. 104).

Moreover, the nation's founders discovered a dark side of independence, including the loss of advantages of membership in the British Empire. The American merchant marine no longer enjoyed the protection of the British navy (Berkin, 2002, p. 13). Furthermore, there was lingering postwar depression in the South and New England, with the British military campaigns leaving the Carolinas' economies in shambles and the Northern States' economies suffering from peacetime (Berkin, 2002, pp. 13-14).

The economic problems intensified State rivalry with devastating consequences for interstate commerce (Berkin, 2002, pp. 14-16). States "refused to cooperate on internal improvements like roads and canals and ... blocked efforts to facilitate interstate trade" (Ellis 2007, p. 104). "With duties to pay at every state border, even the most intrepid merchant or shipper found *interstate commerce a nightmare*. States with natural advantages made every effort to abuse those without them" (Berkin, 2002, p. 15, emphasis added). "Other sovereign rights [e.g. each state using its own currency] claimed by the states hurt domestic trade" (Berkin, 2002, p. 15). "By 1785 *the conflict and chaos created by thirteen independent mercantile systems was obvious*, yet calls for commercial cooperation that year and the following year were met with suspicion, resistance – and a decided lack of interest" (Berkin, 2002, p. 16, emphasis added). "Despairing of this *localism* sooner than most, ... Alexander Hamilton, bemoaned the fact that so few Americans 'thought *continentally*'" (Berkin, 2002, p. 17, emphasis added).

4.2. The Innovation of Federalism

Seeing the republic "at the edge of anarchy," key Revolutionary leaders feared inaction to address the inadequacies of the confederation (Ellis, 2007, pp. 91-92).

The word that Madison, along with most critics of the current confederation, used to describe the consequences of inaction was "*anarchy*," a term suggesting utter chaos, widespread violence, possible civil war between or among the states, and the likely intervention of several European powers eager to exploit the political disarray for their own imperial purposes. (Ellis, 2007, p. 93, emphasis added, footnote omitted)

Madison argued that – based on appraisal of historical Greek, Italian, German, and Dutch confederations – *confederations were an inherently transitory political configuration*.

Confederations were an inherently transitory political configuration headed either toward dissolution, which was the usual outcome, or toward unity, the rare but obviously preferred destination. The political lessons that history provided, then, were unambiguous. Either the confederated republic of the United States came together as one nation or it suffered the sad fate of its European predecessors, which was some combination of civil war, anarchy, and political oblivion. (Ellis, 2007, p. 103, footnote omitted)

Madison and Washington had come to the conclusion “that the full promise of the American Revolution could be secured only by a stable and wholly consolidated nation-state” (Ellis, 2007, p. 94). This was not the perspective of the majority of Americans, however, because “such a national government contradicted the most cherished political values the American Revolution claimed to stand for” (Ellis, 2007, p. 89).

It is this fear of anarchy that created the sense of crisis that led to the Constitutional Convention held in Philadelphia in May 1787 to address the inherent weaknesses of the Articles of Confederation (Ellis, 2007, pp. 6-7). At the Convention “[t]here was consensus on only one thing: A new and more effective government was essential. But there was no consensus on what powers that government should have, the form that government should take, or how representation in that government should be determined” (Berkin, 2002, p. 71). Fearing the concentration of power in a new government, Madison developed the Virginia Plan, which provided for the diffusion of power among three branches of government – legislative, executive, and judicial (Berkin, 2002, p. 73). During the Convention, the delegates’ “blueprint was the Virginia Plan, which they had accepted in principle but not in its specifics” (Berkin, 2007, p. 77).

The delegates at the Convention encountered major obstacles in developing and agreeing on the specifics of organizational design for a proposed government. First, a major stumbling block facing the Convention was the States’ resistance to shared sovereignty (Berkin, 2002, p. 44). There was an inevitable “tug-of-war between the states and the central government, [as] any power granted to one must, of necessity, diminish the autonomy of the other” (Berkin, 2002, p. 45). Second, there was fear of excess power in any hands (Berkin, 2002, p. 91). The Convention had a collective fear of abuse of power, anxiety about conspiracies, and a “near obsession with setting trip wires and booby traps to ensnare the abusers and the conspirators” (Berkin, 2002, p. 78). “[T]heir lawyerly obsession with anticipating every pitfall, protecting against every contingency, making airtight every clause seemed to them a great asset in assuring ... protection” (Berkin, 2002, pp. 78-79). Yet, some believed that any design of government, at best, might only forestall decline into tyranny (Berkin, 2002, p. 79).

Throughout the Convention these two themes – States’ resistance to shared sovereignty and the fear of abuse of power in any hands – “bled into each other ... no matter how the discussion began” (Berkin, 2002, p. 91). Given the unprecedented form of government the delegates were attempting to design, “it often proved difficult to decide what constituted a radical notion and what constituted a conservative one” (Berkin, 2002, p. 77). Characteristic of innovative processes, the process at the Convention itself often appeared chaotic (Berkin, 2002, p. 78), with the delegates moving back and forth from one issue to another (Berkin, 2002, p. 94). Yet, “there was in fact a logic to the endless to-and-fro. Because the government the delegates envisioned was made up of interconnected parts, the smallest tinkering or adjustment to one required changes in another. The branches had to be able to cooperate, but they also had to be able to restrain one another” (Berkin, 2002, p. 95).

As debate progressed at the Convention, the delegates “essentially declared the theoretical question of state versus federal sovereignty politically unresolvable.... The only workable solution was to leave the sovereignty question unclear” (Ellis, 2007, p. 110). The resulting complex design “of sovereignty that was at once shared and divided raised the [political] compromises reached at the Constitutional Convention to the level of a novel political discovery: to wit, the notion that government was not about providing answers, but rather about *providing a framework in which the salient questions could continue to be debated*” (Ellis, 2007,

p. 123, emphasis added). More specifically, the organizational design in the U.S. Constitution ultimately ratified by the States in 1788 “was a new and wholly unprecedented version of *federalism*, [that] emerged from the messy political process itself rather than from the mind of any single thinker” (Ellis, 2007, p. 90, emphasis added).¹⁸ “[T]he Constitution ... created a political framework in which state versus federal sovereignty was an *ongoing negotiation* to be resolved on a case-by-case basis.... Instead of a fatal weakness, the deliberate blurring of sovereignty was an abiding strength” (Ellis, 2007, p. 124, emphasis added). As will be discussed in section 7, common carriage principles provide a similar framework for ongoing negotiation on a case-by-case basis as to what is unjust or unreasonable discrimination, a just and reasonable price, and an adequate level of service.

The governance structure created in the U.S. Constitution was a legal innovation, “simultaneously a conservative and radical act” (McDonald, 1985, p. 261). “[T]he Framers ... introduced an entirely new concept to the [political] discourse, that of federalism, and in the doing, created a *novus ordo seclorum*: a new order of the ages” (McDonald, 1985, p. 262). Furthermore, federalism was an emergent solution, “emerg[ing] from the messy political process itself rather than from the mind of any single thinker” (Ellis, 2007, p. 90), to address the anarchy of an unsustainable republic.

4.3. Federalism as an Experiment that Accommodates Experimentation

As an innovative solution to a crisis of anarchy among the States in order to provide a sustainable republic, the structure of federalism in the U.S. Constitution was an experiment in political governance. “The founders often spoke of the new nation as an ‘experiment’ ” (Ferris, p. 101). Moreover, shared sovereignty under federalism provided mechanisms for further experimentation. “The new government, like a scientific laboratory, was designed to accommodate an *ongoing* series of experiments, extending indefinitely into the future. Nobody could anticipate what the results might be, so the government was structured, not to guide society toward a specified goal, but to sustain the experimental process itself. ... The empirical course Madison urged was to conduct ‘an actual trial,’ by letting the experiment function and dealing with its faults as they presented themselves” (Ferris, p. 102, emphasis in original). Thus, the experiment itself provided the framework to guide ongoing experimentation. “The Federalist papers ... employ the word ‘experiment’ forty-five times, and ‘democracy’ only ten times. Democracy was important, but underlying it was the principle that citizens be free to experiment, assess the results, and conduct new experiments” (Ferris, p. 102).

4.4. The Sustainability Properties of Federalism

The experimentation that democracy permits is an important source of a nation’s resilience.

Many of the vexing characteristics of today’s liberal democracies — their cacophony, inefficiency, and haphazard planning — become less troubling if their *inherently experimental character* is taken into account. Like scientific experiments, democracies tend to be untidy, patched-up affairs that seldom work as expected. ... Yet this unappealing system of government, so repellent to the perfectionist in each of us, has proven to be tougher, *more resilient*, and better

¹⁸ Federalism is “[a] federal system of governance arises when a group of equally-sovereign states combine to form a union in which they cede some sovereignty to a central government and retain some sovereignty” (Ulen, 1998, pp. 924-25, citation omitted).

able to answer to the needs of its citizens than any other. And that is because democracy, like science, it is not built on hope of human perfection but on an acknowledgment of human fallibility. (Ferris, p. 103, emphasis added).

Moreover, from a complexity theory perspective (Cherry, 2007), a democratic structure based on federalism provides specific mechanisms for resilience that enhance a nation's sustainability.

[F]ederalism is a patching algorithm that confers system advantages for adaptability through diversity and coupling of policymaking jurisdictions. Such diversity and coupling is important for adaptability of the policymaking process itself by providing mechanisms for both experimentation and stability that are essential for development of sustainable policies. (Cherry, 2007, p. 372)

Policy experimentation within the States provides an important mechanism for adaptability, whereas the constraining force on States' power by the federal government provides a source of order. The coexistence of these mechanisms provide the nation (collectivity of States) with greater resilience relative to a confederation of sovereign States with a weak federal government that is prone to anarchy or a nation possessing a single federal government that is constrained by the algorithm of an adaptive walk.

Although predating the development of complexity theory, the sustainability properties of federalism were intuitively recognized by Justice Brandeis of the U.S. Supreme Court in his famous dissenting opinion in *New State Ice Co. v. Liebmann*, 285 U.S. 262 (1932). In advocating cautious use of federal preemption to strike down state laws, Justice Brandeis states:

There must be power in the states and the nation to remould, through experimentation, our economic practices and institutions to meet changing social and economic needs....

To stay experimentation in things social and economic is a grave responsibility. Denial of the right to experiment may be fraught with serious consequences to the Nation. It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country. This Court has the power to prevent an experiment. We may strike down the statute which embodies it on the ground that, in our opinion, the measure is arbitrary, capricious or unreasonable. We have power to do this, because the due process clause has been held by the Court applicable to matters of substantive law as well as to matters of procedure. But in the exercise of this high power, we must be ever on our guard, lest we erect our prejudices into legal principles. If we would guide by the light of reason, we must let our minds be bold.

5. STATUTORY EXPERIMENTATION UNDER FEDERALISM TO ADDRESS NEEDS OF INTERSTATE COMMERCE

Evolution of the common law, mostly within the States, continued to be the primary source of legal change in the U.S. until the late nineteenth century. However, changes in economic conditions arising from technological innovations driving the Industrial Revolution exposed

certain inadequacies of the common law system that led to the rise of statutorification as the source of new law (Calabresi, 1982, pp. 1-7). Fundamentally, the writ system of common law pleading strictly limited the scope of legal causes of action; and the recognition of new causes of action evolved very slowly. Changes in economic relationships driven by changes in technology gave rise to disputes not recognized by the writ system and thereby to growing societal frustration at the lack of remedies. The only option for more immediate and timely policy change was the enactment of legislation to override the common law.

Within the general trend of increased statutorification occurring in the U.S., the following subsections discuss some major phases in the statutory responses to the needs of commerce evolving in the nineteenth century. First, States enacted general incorporation statutes to facilitate the process of establishing corporations to conduct commerce, which not only greatly increased the number of corporations but coupled with new technologies also dramatically increased the scale of their operations. Second, due to inadequacies of common law remedies, many States enacted statutes to regulate services provided through new technologies by powerful corporations — such as railroads, telegraphy and telephony. But, with the growth of such services in — and the States’ lack of jurisdiction over — interstate commerce, Congress passed the first federal statute to regulate interstate commerce, the Interstate Commerce Act of 1887, that was initially applied to railroads and later amended to apply to telegraphy and telephony. Third, to address the more general problem of the rise and concentration of power in corporations, Congress enacted the first federal antitrust statute, the Sherman Act of 1890. By the nature of its general statutory language, the Sherman Act enabled the courts to subsequently develop a form of federal common law of antitrust.

5.1. The Rise of Statutorification and Corporate Power

The rise of statutorification – lawmaking by legislatures – led to further legal innovations to address commerce. As increased commercial activity initially expanded on an intrastate basis, legislative activity dramatically increased first in the States. The increased burden on state legislatures led to some legal innovations. One – of ultimately great, but largely unforeseen consequences – was the change in method for creating corporations. “The first method by which charters of incorporation were obtained in the United States was the special incorporation statute. Each charter was generally a separate bill.... Each such private bill would generally require separate enactment by a state legislature” (Creighton, 1990, p. 51). Each charter described the intentions of the corporation, its organization features, and any specific privileges or restrictions placed on the corporation. Early business organizations that were granted charters included banks, insurance companies, canals, turnpikes, and later railroads (Creighton, 1990, p. 38). As the demand for corporate charters increased, another method developed – starting in the early nineteenth century and more widespread after 1820 – known as general incorporation (Creighton, 1990, p. 52). General incorporation permitted *pro forma* incorporation without action of the legislature, making corporations more standard and easily available.

By the late nineteenth century, the ease with which corporations could be established combined with the development of new transportation and communications technologies provided the opportunity for business corporations to accumulate vast levels of capital and to conduct interstate business on an unprecedented scale (Hurst, 1977). As discussed below, common law remedies did not adequately address the economic abuses of large corporations, and the corporations’ interstate activities were beyond the jurisdictional reach of the States. The only viable solutions were statutory responses by Congress to create federal regulation of interstate

commerce. Congress' responses led to further legal innovations with passage of the Interstate Commerce Act (ICA) of 1887 to regulate railroads (Schwartz, 1973) and the Sherman Act of 1890 to prohibit certain anticompetitive and monopolistic practices by all general businesses (Areeda & Turner, 1991).

5.2 The Statutory Evolution of Common Carriage

Late in the nineteenth century, common law remedies did not adequately address the economic abuses of large corporations, and corporations' interstate activities were beyond the jurisdiction of the States' police powers. In 1885, Congress created a special Senate Select Committee on Interstate Commerce, popularly known as the Cullom Committee (named after Sen. Cullom), to review the economic abuses associated with large corporations, particularly with regard to the railroad industry (Schwartz, 1973, p. 31).

In early 1886, the Cullom Committee issued its report, known as the Cullom Report. The Cullom Report provides a comprehensive record of the committee's investigation and recommendation for federal legislation, which was limited to the railroad industry. Later that same year, a definitive ruling by the U.S. Supreme Court in *Wabash, St. Louis & Pacific Railway Co. v. Illinois*, 118 U.S. 557 (1886) – that the States lacked jurisdiction to regulate railroad transportation in interstate commerce – further precipitated a crisis for Congress to act. The following year Congress passed the Interstate Commerce Act of 1887 based on the recommendation of the Committee.

5.2.1. *Recognizing the need to address corporate power, and particularly railroads*

In the Cullom Report, the Committee emphasized that the general question of policy before them was *how to control the growth and influence of corporate power and to regulate its relations to the public*. Corporations engaged in transportation naturally received the most consideration, given their public visibility and importance to commerce.

The interest everywhere manifested in its investigation has convinced the committee that *no general question of governmental policy occupies at this time so prominent a place in the thoughts of the people as that of controlling the steady growth and extending influence of corporate power and of regulating its relations to the public*; and as no corporations are more conspicuously before the public eye, and as there are none whose operations so directly affect every citizen in the daily pursuit of his business or avocation as the corporations engaged in transportation, they naturally receive the most consideration in this connection. (Cullom Report, 1886, pp. 2-3, emphasis in original)

The Committee then stated that the industry and commercial welfare of the country are materially affected by the wisdom or unwisdom of policy affecting the respective rights and obligations of citizens and railroads (Cullom Report, 1886, p. 3). Therefore, the Committee's investigation focused on railroad corporations.

The Committee proceeded to describe how, within the past fifty years, the development of improved means of communication and transportation had revolutionized commercial, social, and political relations of nations. Changes began with the revolution in the shipping (water) business by use of steam, followed by the revolution in the transmission of intelligence and the methods of business with the invention of the telegraph. "But still more marvelous have been

the changes brought about ... by the improved facilities for transportation and intercourse afforded by the railroad” (Cullom Report, 1886, p. 3). The changes included consolidation of independent communities and sovereign states into nations, as well as the concentration and consolidation of political organization and every form of commercial enterprise, industry, and production (Cullom Report, 1886, p. 4). “And with this changed condition of affairs in the commercial world come new questions of the greatest importance for consideration by those upon whom the people rely for legislation in the public interest” (Cullom Report, 1886, p. 4).

The Committee asserted, “[r]ailroads are the arteries through which flows the life-blood of the world’s commerce; and to promote the interests of commerce is their manifest destiny and the purpose they are especially fitted to serve” (Cullom Report, 1886, p. 4). Furthermore, “[s]uccessful commerce brings prosperity, ... and the first condition precedent to successful commerce is ‘the economy of transportation’ which the railroad has afforded” (Cullom Report, 1886, p. 4).

The Committee then discussed why government policy for the past fifty years had left development of railroads to the private sector.

The question then was how to get railroads, not how to control them.... It was a matter of necessity in a new country with undeveloped resources and struggling with other burdens which fully taxed its capacity that the work of railroad construction was left to private enterprise.... A method of uniform regulation adopted at the outset might have prevented a needless waste of capital and might have obviated or mitigated existing evils, but it would assuredly have retarded the building up of the country in comparison with the progress attained under freedom from legislative restrictions. (Cullom Report, 1886, p. 5)

But the Committee then stated that such policy may no longer be appropriate and regulation may now be needed.

It by no means follows, however, that regulation is not now needed, or that the policy which was adopted in the beginning as a matter of necessity, and has served a useful purpose, is still the one best adapted to the present requirements of the country and should be permanently continued. That such is not the case it will be the purpose of this report to show. (Cullom Report, 1886, p. 6)

Yet, acknowledging the advantages of the past policy of government non-interference, the Committee emphasized the necessity for caution in shaping legislation that is now required by the change in affairs.

The Committee then described the results of railroad building, briefly summarized here (Cullom Report, 1886, p. 6). The first railroads were modest ventures, initially designed only to accommodate a local constituency. Then short lines were constructed between points. The tendency for consolidation and combination of railroads has been a continuous and conspicuous feature in the history of railroad construction from the beginning, in the U.S. as well as other nations. Consolidations have enabled through traffic, leading to a rapid increase in traffic, extension of established branches of trade, and the development of new industries. Railroad profits initially came from local traffic and depended on the volume of traffic as much as the rates charged in order to cover investment. As corporations gained strength through

consolidation, long distance transportation developed and railroad corporations came into competition with each other. Through constant reductions in rates and improvements in facilities, railroads have enormously increased business of the nation and thereby performed an important public service.

The Committee then asserted that “[t]he policy which has been pursued has given us the most efficient railway service and the lowest rates known in the world; *but its recognized benefits have been attained at the cost of the most unwarranted discriminations*” (Cullom Report, 1886, p. 7, emphasis added). The effect of this policy has been to build up the strong at the expense of the weak, to give the large dealer an advantage over the small trader, to make capital count for more than individual credit or enterprise, to concentrate business at great commercial centers; to necessitate combinations and aggregations of capital that foster monopoly, to encourage the growth and extend the influence of corporate power, and to throw control of commerce into the hands of the few (Cullom Report, 1886, p. 7).

As a result of these “acknowledged evils” incident to the business of railroad transportation, the Committee recognized that public sentiment was nearly unanimous that Congress should undertake in some way to regulate interstate commerce (Cullom Report, 1886, p. 175). The Committee then turned its attention to why federal regulation of interstate commerce was necessary and in what manner the public interest could be best served by legislation.

5.2.2. Identifying the reasons for federal regulation of interstate commerce

The Committee found that Congressional action was necessary and expedient for several reasons. First, the Committee concluded that, in the absence of regulation, “the carrier is practically and actually the sole and final arbiter upon all disputed questions that arise between shipper and carrier as to whether rates are reasonable or unjust discrimination has been practiced” (Cullom Report, 1886, p. 176). Throughout the investigation the railroads had argued that: arbitrary or oppressive rates cannot be maintained as they are sufficiently regulated by competition; that such discriminations as exist are unavoidable; that owners and managers of railroads are the best judges of the conditions and circumstances that affect the cost of transportation and what compensation should be received; and that the common law affords the shipper an adequate remedy and protection against abuse or infringement of his rights (Cullom Report, 1886, p. 176). But the Committee stated that the railroads’ argument fails to recognize the public nature and obligations of the carrier, and the right of the people to have a voice in the management of a corporation which performs a public function; that competition is not sufficient to secure the shipper from abuse and unjust discrimination; and that the common law does not afford the shipper effective remedy for grievances (Cullom Report, 1886, pp. 176-177).

As for the insufficiency of legal remedies, the Committee first recognized that the States had found common law remedies to be insufficient in intrastate commerce. Consequently, nearly every State had passed legislation, and many also established commissions, to provide shippers prompt and effective remedies (Cullom Report, 1886, pp. 176-177).¹⁹ The Committee stated that the reasons for the failure of recourse to the common law “apply with even greater force to the more complicated transactions of interstate commerce than to State traffic, because the former involve more perplexing questions and are affected by a greater diversity of varying conditions” (Cullom Report, 1886, p. 177). The Committee then elaborated on the hardships borne by a

¹⁹ Thus, the statutory creation of a new type of governmental entity, a commission to which the legislature delegated adjudicatory and legislative powers, was a state government innovation.

shipper that did seek redress for grievances under the common law. The shipper bears the burden of proof yet the railroad possesses nearly all the evidence; the railroad has ample resources and legal talent to wear out the shipper; the railroad has the power to determine the success or failure of the shipper in business; and, finally, the expense involved and uncertainty faced in litigation have made common law remedies obsolete and useless (Cullom Report, 1886, p. 178).

Second, the Committee concluded it is the duty of Congress to regulate because of the railroads' admitted abuses of management and acknowledged discrimination between persons and places that only Congress has the power to remedy under the U.S. Constitution. In this regard, the Committee asserted that competition constitutes effective regulation only under certain conditions, such as for larger shippers and in commercial centers or localities where competition is most active.

[T]he railroad argument against legislation on the ground that competition, the laws of trade, and an "enlightened self-interest" afford all needful protection and the most effective regulation, is predicated upon the conditions which prevail at the great commercial centers and in favored localities where competition is most active, and applies more particularly to the larger shippers, who are always able to take care of themselves and at such points can usually depend for protection and fair treatment upon the eagerness of the corporations to capture all the business possible. (Cullom Report, 1886, p. 178)

But the Committee countered that such conditions do not exist for shippers and areas where the protection afforded by competitive forces are inadequate or non-existent, and additional safeguards are needed.

But it should be the aim of the law to protect the weak, and it is at the great number of non-competitive interior points, scattered all over the land, at which even the protection elsewhere afforded by competitive influences is not found, and where the producer and shipper are most completely in the power of the railroads, that additional safeguards are most needed. (Cullom Report, 1886, p. 178)

Third, the Committee recognized that federal legislation is necessary because the operations of the transportation system are, for the most part, beyond the jurisdiction of the States. Under the U.S. Constitution, the States have no power to regulate interstate commerce. Furthermore, "even [State] control of their own domestic traffic is restricted and frequently made inoperative by reason of its intimate intermingling with interstate commerce and by the present freedom of the latter from any legislative restrictions" (Cullom Report, 1886, p. 178). The Committee asserted that federal regulation would supplement, and render effective, State regulation; moreover, only federal regulation could secure uniformity of regulation that the transportation system requires for its highest development (Cullom Report, 1886, p. 178).

Fourth, the Committee concluded that federal legislation was necessary "because the business of transportation is essentially of a nature which requires that uniform system and method of regulation which the national authority can alone prescribe" (Cullom Report, 1886, p.

179). In this context, the Committee stressed the need for uniformity of regulation in commerce with foreign nations, which only Congress could provide.

Fifth, and finally, the Committee stated that the failure of Congress to act enables the railroads to regulate commerce in their own way and in their own interests (Cullom Report, 1886, p. 179). Notwithstanding the achievements of the railroads, there are still inequalities and discriminations that characterize the operations of the system in its entirety. “In the absence of national legislation, railroads have naturally resorted to the only methods by which they could unaided secure any degree of stability and uniformity in their charges — consolidation and confederation” (Cullom Report, 1886, p. 179). To equalize through and local rates, and to give them uniformity and stability, must involve a complete readjustment and reconstruction of the commercial relations and business methods of the whole country (Cullom Report, 1886, p. 180). “How this is to be accomplished is the secret which underlies the satisfactory solution of the railroad problem” (Cullom Report, 1886, p. 180). The railroad problem cannot be solved by any master stroke of legislative wisdom; and, judging from past experience, it is highly improbable that the railroads will eventually work out its solution (Cullom Report, 1886, p. 180). The Committee does not believe that a satisfactory solution can ever be secured without the aid of wise legislation (Cullom Report, 1886, p. 180).

5.2.3. Developing a solution to the railroad problem

The Committee then took on the task of designing legislation to address the railroad problem. In so doing, it started with an examination of the causes of complaint against the railroad system. The Committee provided a long list of complaints against the railroad system in the U.S., such as: local rates are unreasonably high compared with through rates; both local and through rates are unreasonably high at non-competing points; rates are established without regard to costs; rates are unjustifiably discriminatory between individuals charged for like services under similar circumstances; unreasonable discriminations are made between articles of freight of like character, and between different quantities of the same class of freight; unreasonable discriminations are made between localities similarly situated; there is favoritism to certain shippers in the form of special rates, rebates, and concessions; railroads refuse to be bound by their own contracts, and are able by various devices to avoid their responsibility as carriers; the common law fails to afford a remedy for the above grievances; differences in classifications across country are often a means of extortion; and the management of railroads is extravagant and wasteful, imposing a needless tax upon the shipping and traveling public (Cullom Report, 1886, pp. 180-181).

The Committee concluded that *the essence of the complaints is “based upon the practice of discrimination in one form or another”* (Cullom Report, 1886, p. 182, emphasis added). It also found that all the parties substantially agreed that the goal is “to secure equality, so far as practicable, in the facilities for transportation afforded and the rates charged by the instrumentalities of commerce” (Cullom Report, 1886, p. 182).

The Committee stated that “[t]he first question to be determined ... is whether the inequalities complained of and admitted to exist are inevitable, or whether they are entirely the result of arbitrary and unnecessary discrimination on the part of the common carriers of the country; and the consideration of this question suggests an inquiry as to the proper basis upon which rates of transportation should be established” (Cullom Report, 1886, p. 182).

The Committee then engaged in a lengthy analysis of the principles upon which railroad rates should be established, and the limitations within which discrimination may be justifiable

(Cullom Report, 1886, pp. 182-198). Its analysis examined the following issues: charging “what the traffic will bear”; the classification of freights; uniformity of classification; discrimination between persons; concessions to large shippers; discriminations between places; the impracticability of fixing rates by legislation; and rates on long and short hauls.

The Committee ultimately made two fundamental recommendations, upon which specific proposed legislative language was based. First, “one of the chief purposes of ... legislation ... should be to secure the fullest publicity, both as to the charges made by common carriers and as to the manner in which their business is conducted” (Cullom Report, 1886, p. 198). For “the maintenance of stable and reasonably uniform rates, [publicity] is the surest and most effective preventive of unjust discrimination” (Cullom Report, 1886, p. 198). Furthermore, for publicity to serve this preventive role, “any deviation from [the posted rates] should be declared unlawful, except when the schedule [of rates] is changed in such manner as may be provided” (Cullom Report, 1886, p. 200). However, to provide some flexibility for railroad rates to vary with circumstances, including to meet price cuts by competitors (Cullom Report, 1886, p. 206), the proposed legislation suggests time frames for advance notice of rate changes that the Committee believes “would be reasonable and sufficient notice and not unduly oppressive” (Cullom Report, 1886, p. 202). The Committee concluded, “[w]hile it is impossible to foresee the exact effect of legislation requiring the operation of the transportation lines of the country upon a system of fixed rates, ... the committee believes that the *experiment* should be tried” (Cullom Report, 1886, p. 208, emphasis added).

Second, a federal commission should be established for the enforcement of the proposed legislation (Cullom Report, 1886, p. 213). Upon review of the evidence before it, the Committee found that nearly all those expressing an opinion on the matter favored the creation of a federal commission or other special tribunal to enforce legislation enacted to regulate interstate commerce (Cullom Report, 1886, p. 208). Furthermore, in light of the evidence before it, the Committee concluded “no statutory regulations which may be enacted can be made fully effective without providing adequate and suitable machinery for carrying them into execution.... Such enactments cannot possibly be self-enforcing” (Cullom Report, 1886, p. 213). Therefore, the Committee was convinced that a federal commission is essential to carry out remedial legislation (Cullom Report, 1886, p. 213).

Such a commission should “be authorized to prescribe the manner in which and the extent to which rates should be published” (Cullom Report, 1886, p. 207). A commission should also be given ample authority to acquire information, to prescribe the manner in which railroad corporations shall keep their accounts, and to require uniform reports as it may designate (Cullom Report, 1886, p. 215). However, citizens “shall be free to pursue his remedy at common law or under the statute herein recommended, at his own discretion” (Cullom Report, 1886, p. 214).

The Committee acknowledged that, “[i]n undertaking regulation of inter-State commerce Congress is entering into a new and untried field” (Cullom Report, 1886, p. 214). For this reason, “[i]ts legislation must be based on theory instead of experience” (Cullom Report, 1886, p. 214). However, the Committee believed that work intelligently performed by a federal commission “would year by year remove ‘the railroad problem’ farther from the realm of conjecture and speculation, and would make it possible to gradually build up a system of regulation upon the safe and enduring foundation of certain knowledge” (Cullom Report, 1886, p. 215). Finally, the Committee’s proposed bill is not offered as a panacea nor simply as a tentative measure,

although its practical application may demonstrate the need for subsequent modification (Cullom Report, 1886, p. 215).

The following year Congress passed the Interstate Commerce Act (ICA) of 1887 based on the Committee's recommendation. The ICA was the first federal statute to regulate interstate commerce. It codified the common law obligations for railroads and created the first federal regulatory agency, the Interstate Commerce Commission (ICC), to oversee and implement a new regime for enforcement of those obligations in interstate commerce. However, the States retained their jurisdiction over intrastate commerce. Thus, under federalism, a dual jurisdictional regime of statutory common carriage evolved: federal regulation of railroads in interstate commerce with oversight by the ICC, and state regulation of railroads in intrastate commerce with oversight (in most states) by state commissions.

5.2.4. The diffusion of statutory common carriage to telegraphy and telephony

As with railroads, many States had also passed legislation placing telegraphy and telephony under the jurisdiction of state commissions. These commissions were often lineal descendants of those established to regulate railroads (Stone, 1991). Congress later applied the statutory framework for railroads to address issues arising from the growing role and influence of telegraphy and telephony. In 1910, Congress amended the ICA to extend the jurisdiction of the ICC to the interstate activities of telegraphy and telephony. The dual jurisdictional regime was thus extended to telegraphy and telephony, as the States retained their jurisdiction over intrastate commerce.

In this way, Congress diffused its experimental framework of regulation from railroads to electronic communications technologies. In 1934, the same framework – copying much of the language verbatim from the ICA – was established by Congress in the Communications Act of 1934 (FCA), which created the Federal Communications Commission (FCC). The FCC assumed jurisdiction over telephony and telegraphy as well as radio.²⁰ By the time the Telecommunications Act of 1996 (TA96) was enacted, Congress' experiment had lasted and diffused for over 100 years.

At this juncture, it should be recalled that railroads, telegraph and telephone companies were both common carriers and public utilities under the common law. As the state and federal statutory regimes for these companies evolved, so did their duties. For example, the expanding scope of the duty to serve discussed in Section 3.4 continued to evolve, eventually culminating in universal service policy that has generally come to mean access for all Americans to basic service at affordable rates.²¹ Through a complex array of state and federal government interventions implemented over decades, such as implicit subsidies within the price structure of services and explicit funding mechanisms, by the early 1980's household penetration rates for wireline telephony service exceeded 90% for the nation overall. For transportation carriers and in varying ways, public utility obligations also took the form of implicit subsidies in the price structure and explicit funding mechanisms (Cherry, 2008c, pp. 275-83).

²⁰ The Radio Act of 1927 had created the Federal Radio Commission (FRC), which placed radio exclusively under federal regulation. When Congress created the FCC, it abolished the FRC and transferred jurisdiction over radio to the FCC.

²¹ The evolution of the meaning of "universal service" has its own complex history. Milton Mueller (1993) traces its origins to problems of interconnection between the Bell system and independent telephone companies during the early nineteenth century. However, certainly by the second half of the twentieth century, the term has come to have the general meaning stated here.

5.3. The Statutory Evolution of Federal Antitrust Law

The Cullom Report identified “how to control the growth and influence of corporate power and to regulate its relations to the public” as the critical general question of policy (Cullom Report, 1886, pp. 2-3). However, the Interstate Commerce Act of 1887, subsequently passed based upon the Report’s recommendation, provided a federal regulatory framework only for the railroad industry in interstate commerce. Addressing the policy question of how to regulate corporate power in general had been deferred. Only three years after passage of the ICA, Congress responded with passage of the first federal statute to regulate interstate commerce for general businesses, the Sherman Act of 1890.

5.3.1. Recognizing the need for policy change

From the legislative history of the Sherman Act, it is clear that Congress was motivated to act in response to the effects of rising concentration of commercial power on the general public. For example, during a session of the U.S. Senate, Senator George asked:

We find everywhere over our land the wrecks of small, independent enterprises thrown in our pathway. So now the American Congress and the American people are brought face to face with this sad, *this great problem: Is production, is trade, to be taken away from the great mass of the people and concentrated in the hands of a few men who, I am obliged to add, by the policies pursued by our Government, have been enabled to aggregate to themselves large, enormous fortunes?* 21 Cong. Rec. 2598 (1890) (emphasis added)

And to which he responded:

[T]he use of this organized force of wealth and money the small men engaged in competition with [the trusts] are crushed out, and that this is the great evil at which all this legislation ought to be directed. 21 Cong. Rec. 2729-2730 (1890)

Another example are statements by Senator Sherman, after whom the eventual legislation was named. Sen. Sherman acknowledged the benefits of large corporations:

Experience has shown that [corporations] are the most useful agencies of modern civilization. They have enabled individuals to unite to undertake enterprises only attempted in former times by powerful governments. The good results of corporate power are shown in the vast development of our railroads and the enormous increase of business and production of all kinds. 21 Cong. Rec. 2457 (1890)

But he also stressed the negative consequences arising from the decline of competition.

The sole object of [trusts] is to make competition impossible. It can control the market, raise of lower prices, as will best promote to selfish interests.... Its governing motive is to increase the profits of the parties composing it. The law of

selfishness, uncontrolled by competition, compels it to disregard the interest of the consumer. 21 Cong. Rec. 2457 (1890)

5.3.2. *Identifying the reasons for federal regulation of interstate commerce*

For interstate commerce generally, Congress identified problems similar to those encountered in addressing the railroad problem. Congressional response was necessary due to the inadequacy of common law remedies and the lack of State jurisdiction over interstate commerce.

Legal remedies were inadequate under both federal and state law. First, there was no relevant federal common law (Areeda & Hovenkamp, 1991, §302, p. 3). Second, the States' common law was not designed to preserve competition. "The historical concern of the common law of contracts in restraint of trade was coercion, or the elimination of noncontracting parties' freedom to contract" (Areeda & Hovenkamp, 2000, §104a, p. 63). But "[t]he classical doctrine of contracts in restraint of trade had little or nothing to do with the emerging neoclassical economic theory of competition" (Areeda & Hovenkamp, 2000, §104a, p. 68). That the doctrine was not designed to preserve competition is clear from the way in which the courts employed the doctrine (Areeda & Hovenkamp, 2000, §104a, p. 69). "[C]ompletely voluntary agreements to eliminate competition, such as by price-fixing, were not generally enforceable in court, [but] neither were they indictable offenses or even challengeable by third parties in civil actions" (Areeda & Hovenkamp, 2000a, §104a, p. 63). Thus, the law intervened only when parties to the contract combined to force a recalcitrant contract party to adhere to the contract terms.

As for the jurisdictional problem, "[f]ederal jurisdiction seemed necessary because multistate firms were then largely beyond the reach of any single state. State courts could not easily attach property located in other states, and corporations often evaded judicial penalties by reincorporating elsewhere or moving their principle place of business. By 1890, it was widely believed that only the federal government could deal effectively with trade restraints" (Areeda & Hovenkamp, 1991, §302, p. 3).

5.3.3. *Developing a solution to the problem of rising concentration of commercial power*

The Sherman Act was enacted to prevent restraints on competition arising from the conduct of large businesses, often organized as "trusts".

[The Sherman Act] was enacted in the era of "trusts" and of "combinations" of businesses and of capital organized and directed to control of the market by suppression of competition in the marketing of goods and services, the monopolistic tendency of which had become a matter of public concern. The end sought was the prevention of restraints to free competition in business and commercial transactions which tended to restrict production, raise prices or otherwise control the market to the detriment of purchasers or consumers of goods and services, all of which had come to be regarded as a special form of public injury. *Apex Hosiery Co. v. Leader*, 310 U.S. 469, 492-93 (1940) (footnote omitted).

However, Congress faced the challenge of designing a statutory framework to achieve the intended purposes.

Given the lack of relevant preexisting federal common law, the "[c]reation of a new federal jurisdiction inevitably required the courts to receive, apply, and develop 'the common

law' in the same way that a new jurisdiction customarily does" (Areeda & Hovenkamp, 1991, §302, p. 4). For this reason, Areeda and Hovenkamp assert:

[T]he Sherman Act may be seen not as a prohibition of any specific conduct but as a general authority to do what common law courts usually do: to use certain customary techniques of technical reasoning, to consider the reasoning and results of other common law courts, and to develop, refine, and innovate in the dynamic common law tradition. (1991, §302, p. 4)

The brevity of the legislation – to prohibit every contract, combination or conspiracy in restraint of trade and to prohibit monopolization of any part of trade in interstate commerce – and its subsequent enforcement by the courts for over a century support this characterization. The Sherman Act provided the statutory foundation for a new body of law that provided flexibility to evolve in the courts consistent with the common law tradition.

5.4. Temporal Sequencing and Layered Innovations of Statutory Common Carriage

Reviewing the evolution of the statutory framework of common carriage for railroads, telegraphy and telephony, we find the following layers of development in their temporal sequence: (1) the foundational layer is the English common law of common carriage; (2) which continued to evolve within a representative democratic structure of federalism under the U.S. Constitution; (3) followed by the development of the common law of public utilities to address certain societal and economic problems arising from technological innovations in network infrastructures providing essential services; and (4) finally, to address inadequacies under the common law, enactment of federal legislation to regulate interstate commerce (under which states retained jurisdiction over intrastate commerce) for which independent regulatory agencies were created to oversee implementation for specific network infrastructure industries.

Articulated in this way, we see that *the statutory framework of common carriage established in the Interstate Commerce Act was the result of successive layers of policy evolution and legal innovation*. The first layer, or foundation, consisted of the common law duty to serve of common carriage, resulting from centuries of legal innovation by the courts with deep roots in the Middle Ages, and consisting of fundamental obligations originally borne by all public employments and retained for public service companies notwithstanding the rise of capitalism and the common law of contracts. The second layer was the development and ratification of the U.S. Constitution, its framework of federalism constituting an innovative solution to the threat of anarchy in the early republic from divisive relationships among the States. Federalism was not only an experiment, but its very structure of shared federal-state sovereignty accommodates ongoing debate and experimentation. The third layer was the growth in the grant of government franchises, which not only facilitated the growth of corporate economic power but also promoted economic development through the establishment of public utilities to provide new network technologies. The public utilities' duty to serve was implied under the common law, the scope of which expanded during the nineteenth century. The fourth layer was the rise of statutorification during the nineteenth century by the States and Congress to address the rise of corporate power in commerce and the inadequacies of common law remedies. The industry-specific statutory regime was created first to address the "railroad problem",²² establishing a new framework for

²² The importance of the temporal sequencing of common carriage and antitrust law will be discussed in Section 6.2.1.

enforcing the (now codified) duty to serve through oversight by new government entities — independent regulatory commissions. Congress emulated the innovation of the States, many of which had already created state commissions to regulate the activities of railroads (and later of telegraph and telephone companies) in intrastate commerce. These commissions compensated for limitations of statutory lawmaking, by providing more timely response to the complexities of implementing and enforcing the legislation. Congress then enacted antitrust law, enabling evolution of a new body of law, to address the rising concentration of commercial power.

6. TEMPORAL MISFRAMING BLOCKS LEARNING FROM EXPERIMENTATION UNDER DEREGULATORY POLICIES

During the second half of the twentieth century, the U.S. has experimented with deregulatory policies for both transportation and telecommunications carriers. However, in evaluating deregulatory policies affecting telecommunications, many analyses totally ignore or improperly frame the temporal dimensions of the evolution of the law of common carriage. In so doing, numerous analytical and factual errors have infiltrated and misguided debate regarding deregulatory policies, particularly those affecting broadband under the rubric of network neutrality.

Improperly framed temporal analyses have blocked the opportunity to learn from experimentation under deregulatory policies for transportation to inform subsequent experimentation under deregulatory policies for telecommunications. Sustainability problems created by transportation deregulatory policies are also surfacing for telecommunications, many of which could have been foreseen with greater attention to the industries' common legal heritage. Moreover, properly understood, deregulatory transportation policies — which retained common carriage status for transportation carriers — reveal the radical nature of the FCC's policy decision to classify broadband Internet access service as an information service with no separable telecommunications (common carriage) service component. Such understanding helps us recognize how dismantling of common carriage regulation for broadband is recreating conditions for instabilities and future crises that the prior layers of legal innovations evolved to address. These issues are discussed in Cherry (2008c), and some important findings are summarized in this Section.

The network neutrality debate is a response to the resultant rupture in the historical coevolution of economic-political systems for critical infrastructures arising from the elimination of the foundational layer of common carriage principles to broadband. Improperly framed temporal analyses, by mischaracterizing the law of common carriage as well as its relationship to antitrust law, are also misdirecting inquiry in the network neutrality debate (Cherry, 2006). It is necessary to recognize the temporal sequencing of the industry-specific, common carriage regime and the general business regime of antitrust to appreciate the inadequacy of relying solely on the latter to develop and sustain the desired broadband infrastructures. Cherry (2008a & 2010) are dedicated to these tasks, some aspects of which are also summarized in this Section.

Finally, through a deeper appreciation of the temporal dimensions underlying the evolution of the statutory common carriage regime — that is, the successive layers of policy evolution and legal innovations — the sustainability properties of this regime can be better understood. In particular, the common law duty to serve is the foundational layer upon which the whole regime evolved; elimination of this obligation for broadband removes the deepest stratum and is indeed a radical policy choice for which the U.S. has no prior experience.

Moreover, as will be discussed in Section 7, the common law duty to serve itself provides a framework in which the salient questions continue to be debated — what is reasonable discrimination, a reasonable price, or adequate service — much like the structure of federalism. In this way, common carriage has unique sustainability properties, being not only an experiment but also providing the mechanism for ongoing experimentation. The common law duty to serve of common carriage has been the legal basis for centuries of evolution, adapting with changes in economic structures and dramatic technological innovations. Thus, seen from a temporally rich perspective, it should not be surprising that societal demand for broadband infrastructure that is widely available, affordable and reliable will likely create pressure for reinstatement of important aspects of common carriage principles that successfully provided the legal foundation for the development of previous network infrastructures with such properties.

6.1 Sustainability Problems Created by Deregulatory Policies for Transportation and Telecommunications Carriers

In the U.S., deregulatory policies in transportation preceded those for telecommunications. Given their common legal heritage, experimentation with deregulatory transportation policies provides valuable insights for both evaluating recent deregulatory telecommunications policies and informing prospective policy change in telecommunications under intermodal competition. These insights are foregone, however, when analyses do not adequately reflect the temporal dimensions underlying the evolution of the regimes from which deregulatory experimentation is occurring.

6.1.1. Properly framing temporal dimensions of regulatory regimes

As a starting point, it is necessary to correctly identify the original regulatory regimes from which deregulatory policies are evolving and thus serve as the appropriate basis for comparative evaluation between transportation and telecommunications (Cherry 2008c). As previously discussed in Sections 3 and 5, the original legal regime for both transportation and telecommunications carriers is that of the common law upon which the statutory regimes later evolved. Unfortunately, analyses of numerous scholars either explicitly or implicitly characterize the statutory, and not the common law, regime as the original paradigm from which deregulatory changes have evolved.

The faulty temporal starting point truncates analysis and obscures the layers of policy evolution and legal innovations of the regime for which deregulatory policies are being considered. Serious analytical problems arise in analyses based on such a misidentification of the original paradigm.

The analytical problems generally arise because the analyses focus on changes from the original statutory regimes but with little or no reference to the underlying common law principles. As a result, there is a preoccupation with changes in the statutory obligations but inadequate evaluation of changes relative to the common law obligations. (Cherry, 2008c, p. 277)

The analytical problems have been manifested in various ways.

First, given that deregulatory policies have changed various statutory requirements, some scholars' analyses incorrectly claim — either explicitly or implicitly — that deregulatory transportation regimes have *eliminated* common carriage. Such assertions as to the non-

existence or irrelevance of common carriage under the deregulatory regimes mischaracterize the current state of transportation law, which indeed retained the foundational layer of common carriage. Furthermore, such assertions fail to appreciate the policy reasons underlying the development of the original common law obligations as *status-based rules*, imposed simply by virtue of one's status of engaging in the business (or, later, receiving a franchise under public utility law) and not as the result of the existence of monopoly power (Cherry, 2008c, p. 277).

Second, given the tendency to dismiss the relevance of common carriage under deregulatory policies, such analyses are preoccupied with evaluating regulation of the wholesale market under antitrust law but devote inadequate attention to regulation of the retail market (Cherry, 2008c, p. 277). Consequently, they fail to discuss the common law origins of common carrier and public utility obligations as well as the problems in the retail market that the original common law principles of common carriage evolved to address. Furthermore, such analyses stop short of asking whether their own policy recommendations will enable sustainability of critical communications infrastructure in the long term (Cherry, 2008c, pp. 277-278).

By correcting mischaracterizations of common carriage under transportation deregulation, the previously discussed analytical problems become clear. The current transportation regimes: still retain many attributes of the original common law regime albeit with significant modifications to the initial statutory regimes; retain a significant degree of industry-specific regulation with agency oversight; and impose common carriage obligations with varying modifications among carriers both across and within transportation modes. Furthermore, considerable energies have and continue to be devoted to addressing issues related to the retail market.

6.1.2. Identifying sustainability and transition problems

By commencing analysis from the appropriate temporal point in legal history under the common law, experience under deregulatory transportation policies foreshadows evolution of communications policies. In this regard, both policy sustainability and transition problems that have arisen under deregulatory transportation policies are already appearing under deregulatory telecommunications policies.

First, mechanisms established to fulfill public utility functions under the transportation deregulatory regimes are having recurring sustainability problems (Cherry, 2008c, p. 283). By eliminating entry barriers in order to embrace competition, the mechanisms for extending access to targeted customers or geographic areas that would not otherwise be served had to be modified by increasing reliance on explicit funding programs (rather than implicit subsidies in the price structure). Programs funded through appropriations by Congress – such as Amtrak for intercity passenger rail service and the Essential Air Service program for airline service to small, isolated communities – are considered unsustainable at historical funding levels, but do not reliably receive adequate funding from Congress (Cherry, 2008c, p. 283).

Likewise, by eliminating entry barriers for the telecommunications industry, mechanisms for achieving universal service objectives had to be modified by shifting reliance from implicit subsidies within the price structure to explicit funding programs. The current funding mechanism for support of federal universal programs established under the Telecommunications Act of 1996 is already considered to be unsustainable (Cherry, 2008c, p. 286).

Second, there have been transition problems in implementing the transportation deregulatory regimes that relate to litigation of claims in the retail market (Cherry, 2008c, p. 284). Some problems have arisen from judicial interpretation of the effects of detariffing, which were

ultimately resolved by the U.S. Supreme Court (Cherry, 2008c, p. 284). Others have arisen from ambiguity as to the applicability of other federal or state causes of action – based on legal grounds outside of the industry-specific legal regimes – that may be brought by or on behalf of customers against transportation carriers. Unfortunately, many of these – such as the interpretation of savings clauses or preemption clauses – still remain unresolved.

Similar transition problems related to detariffing and the scope of federal preemption of state claims have already arisen under deregulatory telecommunications policies (Cherry, 2008c, pp. 286-287). There is a conflict among the Federal Court Courts of Appeals as to the legal implications and effects of detariffing, but thus far it has been unaddressed by the U.S. Supreme Court (Cherry, 2008c, pp. 286-287; Cherry, 2010, p. 17). In addition, the U.S. Supreme Court has not eliminated uncertainties regarding the viability of state causes of action given the coexistence of various federal preemption and savings clauses (Cherry, 2010, p. 17).

6.2 The Radical Experiment for Broadband

There is, however, a major divergence in the evolutionary trajectories of the legal regimes for the transportation and telecommunications sectors. Recent FCC policy decisions affecting broadband access services have *eliminated* common carriage in both the wholesale and retail markets, also rendering public utility obligations inapplicable.²³ From the perspective of deregulatory transportation policies, this broadband policy is of a *radical* nature. “[F]or this very reason, we must look beyond experience under deregulatory transportation policies to consider the consequences of this unique policy trajectory for broadband” (Cherry, 2008c, p. 288).

6.2.1. *Relevance of the differential evolution of the common carriage and antitrust regimes for the network neutrality debate*

Some parties assert that network neutrality rules are not necessary because competition is sufficient to protect against abuses of discrimination and that any remaining problems should be addressed under antitrust law. A fundamental error embedded in such claims is a failure to appreciate that the industry-specific legal regimes of common carriage and public utilities largely *predate* the legal regime for general businesses, consisting of antitrust and consumer protection laws (Cherry 2008a & 2010). From differential starting points, the respective regimes further coevolved, creating complex interrelationships between them.

Recognition of this temporal sequence is critical, as the statutory general business regime evolved as an adjunct to the industry-specific statutory regimes. As a result, in numerous cases and circumstances the general business regime has been preempted or superseded by the industry-specific regimes, and, for such situations, further evolution of the general business regime thereby addressed issues *not* covered by the traditional industry-specific regimes... [U]nder deregulatory policies ... it is unclear whether the general business regime will adequately address the situations or circumstances that had previously been addressed by the

²³ In the matter of inquiry concerning high-speed access to the Internet over cable and other facilities, *Declaratory Ruling and Notice of Proposed Rulemaking*, 17 FCC Rcd 4798 (2002) (cable modem access to the Internet is an information service not subject to common carriage regulation); In the matter of appropriate framework for broadband access to the Internet over wireline facilities, universal service obligations of broadband providers, *Report and Order*, 20 F.C.C.R. 14,853 (2005) (DSL access to the Internet is an information service not subject to common carriage regulation).

traditional industry-specific regimes. (Cherry, 2008a, p. 961, emphasis in original)

As the common carriage framework changes under deregulatory policies, the resulting interrelationships between the common carriage and antitrust laws necessarily shift. The complexity of redrawing the boundaries between the common carriage and antitrust laws is already apparent from recent U.S. Supreme Court cases (Cherry, 2010, pp. 15-16).²⁴

For broadband Internet access services, however, a legal framework for broadband access services is still evolving. Because the FCC classified broadband access services as information services, they are not subject to common carriage regulation under Title II of the Communications Act of 1934. As a result, the FCC's regulatory authority over broadband access is limited to its ancillary jurisdiction under Title I, which is ill-defined and its applicability has been called into question in *Comcast v. FCC*.²⁵ Therefore, a new and different interface with antitrust law must be built.

The analytical problems from ignoring the common law origins of common carriage and the temporal sequencing of its relationship to antitrust law include a preoccupation with evaluating regulation governing the wholesale market and inadequate attention to regulation governing the retail market (Cherry, 2006, p. 484). This has led to assumptions or assertions that reliance on antitrust law for wholesale market problems will, as if by an invisible hand, trickle down to adequately address problems in the retail market. *However, the statutory framework of common carriage evolved because competition was insufficient even under the common law framework of common carriage to adequately address problems in the retail market.* The elimination of the centuries-old common law principles of common carriage constitutes a new experiment with which the U.S. has had no prior experience.

The overall effect of misidentifying or ignoring the original regulatory paradigm under the common law has also misled discourse of network neutrality away from critical questions related to problems in the retail market (Cherry 2006, p. 500-505). One set of questions relates to whether a broadband network infrastructure will evolve with the desired emergent properties of widespread availability, affordability and reliability. Another set of questions relates to the sustainability of policy goals that had been achieved under the traditional telecommunications, common carriage regime. In this regard, subjecting broadband and narrowband telecommunications services to asymmetric regulatory frameworks may undermine the sustainability of policy goals associated with the latter (Cherry, 2006, pp. 497-500). Due to competition between the asymmetrically regulated narrowband and broadband networks, ultimately *no* common carriage-provided service may be available to some classes of customers in some geographic areas (Cherry, 2006, p. 498).

Yet, another set of sustainability problems may be created due to inter-infrastructure effects. Notably, deregulatory broadband policies may adversely affect the financial sustainability and ubiquitous deployment of the postal system (USPS) (Cherry, 2006, pp. 507-510). Electronic substitution over the Internet of first class mail has undermined the financial viability of the USPS. To address the financial unsustainability of the USPS's current business

²⁴ See, e.g., *Verizon Communications Inc. v. Trinko*, 540 U.S. 398 (2004) (interpreting the antitrust-specific savings clause in the Telecommunications Act of 1996; neither recognizing nor repudiating the essential facilities doctrine); *Bell Atlantic Corp. v. Twombly*, 127 S. Ct. 1995 (2007) (changing the standard for pleading an agreement in restraint of trade).

²⁵ See Section 6.2.2, *infra*.

model, in 2003 the President's Commission on the United States Postal System recommended that the USPS become more Internet-dependent, both for coordinating internal operations and for providing value-added services to customers (EMBRACING THE FUTURE, 2003, pp. 143-157). How the postal system will be affected by the elimination of common carrier obligations for the provision of broadband access services to the Internet is unclear. Adverse consequences could arise, such as de facto erosion of common carriage postal services and deterioration in the geographic availability of postal service. The cascading implications for the postal system have thus far not penetrated policymakers' attention in the context of network neutrality.

6.2.2. *Extending or reversing the FCC's radical policy trajectory under network neutrality*

The recent decision in *Comcast v. FCC*, 600 F.3d. 642 (D. C. Cir. 2010), in which the D.C. Circuit Court of Appeals recently held that the FCC lacks ancillary jurisdiction under Title I of the Communications Act of 1934 to prohibit certain network management practices of Comcast, does present an opportunity to reverse the FCC's radical policy trajectory with regard to the classification of broadband Internet access services. The jurisdictional defect can be cured either by FCC reclassification of broadband Internet access services as telecommunication services under Title II or by Congress through legislation.

In response to *Comcast v. FCC*, the FCC is considering reclassification of the transmission component of broadband Internet access service as a common carriage service in *Framework for Broadband*.²⁶ The failure to understand that common carriage obligations are status-based rules, independent of industry market structure, has led to misframing of inquiry by many parties in the earlier proceeding, *Broadband Industry Practices*,²⁷ as to how the FCC should embark in determining what obligations should be borne by providers of broadband access.²⁸ Misrepresentation of common carriage is likely to continue in *Framework for Broadband*, with opponents of network neutrality encouraging the FCC to not reclassify the telecommunications component of information services (much less information service overall) as a common carriage service.

It is unclear what the outcome will be in *Framework for Broadband*. Thus far, comments filed in *Broadband Industry Practices* represent a conflict in framing: proponents of network neutrality focused on historical precedent and empirical realities of the corporate economic power of broadband access service providers relative to their customers or competitors; and opponents' arguments based on theoretical analysis ripped from historical context and dismissal of the reasons underlying the lineage of legal precedent. The framing that the FCC, or Congress, accepts will determine whether the FCC's recent radical policy trajectory will be extended or reversed. The differential impacts between such potential future trajectories are dramatic.

²⁶ *Notice of Inquiry, In the Matter of Framework for Broadband Internet Service*, GN Docket No. 12-127 (released June 17, 2010) ("*Framework for Broadband*").

²⁷ *Notice of Proposed Rulemaking, In the Matter of Preserving the Open Internet*, GN Docket No. 09-191, *In the Matter of Broadband Industry Practices*, WC Docket No. 07-52 (Released October 22, 2009) ("*Broadband Industry Practices*").

²⁸ See, e.g., filing of 22 economists on April 12, 2010; Letter dated February 22, 2010 to FCC Chairman Genachowski, by Kyle McSlarrow (NCTA), Steve Largent (CTIA), Walter McCormick (USTA), Grant Seiffert (TIA), Curt Stamp (ITTA), Thomas Tauke (Verizon), James Cicconi (AT&T), Gail MacKinnon (Time Warner Cable), and Steve Davis (Qwest) ("*Letter*").

7. THE UNWISDOM OF DISMANTLING THE LAYERS OF LEGAL INNOVATIONS FOR BROADBAND

In Section 5.4, successive layers of policy evolution and legal innovations of the statutory regulatory framework from which deregulatory policies are developing were summarized. Awareness of these layers deepens appreciation of the previously discussed sustainability problems arising from the FCC's elimination of the bedrock layer of common carriage for broadband access services. Furthermore, by comparing attributes of common carriage (the first layer) with those of federalism (the second layer), we can better appreciate sustainability properties inherent in the common law principles of common carriage.

Section 4.4 summarized important sustainability properties of federalism from a complexity theory perspective. Federalism is a form of patching algorithm that confers advantages for system adaptability by providing mechanisms for both experimentation and stability. Sections 4.2 and 4.3 discussed the attributes of federalism that constituted a legal and political innovation. Federalism provided a solution to the anarchy of a weak confederation of sovereign states. *The solution to this form of sustainability problem is a political framework in which the salient questions could continue to be debated, that is, a political framework in which state versus federal sovereignty was an ongoing negotiation to be resolved on a case-by-case basis.* The framework of ongoing negotiation, in which the theoretical question of state versus federal sovereignty is politically irresolvable, **is** federalism that **has** inherent sustainability properties.

The framework established by common law principles of common carriage is similar to that of federalism. *Common carriage principles provide a framework in which the salient questions continue to be debated, that is, a framework for ongoing negotiation on a case-by-case basis as to what is unjust or unreasonable discrimination, a just and reasonable price, and an adequate level of service.* The framework of ongoing negotiation enables the “justness”, “reasonableness” and “adequacy” of carrier practices, prices and services to be determined over time under varying situations, conditions and technological capabilities. Thus, as with federalism, common carriage principles provide mechanisms for both experimentation and stability that confer advantages for adaptability over time and changing circumstances. This inherent experimental character of the common carriage framework is what provides its resilience.

Given the longevity of the common carriage principles and the success of U.S. experimentation under statutorily modified frameworks for enforcement of those principles, the empirical realities support the theoretical expectations. What changed from the Middle Ages to the twentieth century was not the core set of common law principles of common carriage but the governance structure by which the principles were enforced, as well as the new technologies for essential services on which they were imposed. For transportation common carriers, deregulatory policies further altered the governance structure for enforcement of common carriage policies but preserved the foundational layer of common carriage. However, for broadband access services the entire foundational layer of common carriage has been removed.²⁹ As a result, the inherent sustainability properties of common carriage provided through ongoing negotiation on a case-by-case basis have been eliminated for broadband.

However, it is not only the first layer of legal innovations that has been stripped. Mechanisms for experimentation within federalism (the second layer of innovation) and by independent regulatory agencies (the fourth layer) have also been eliminated or significantly constrained for broadband. First, by its declaration that broadband Internet access service is not

²⁹ For this reason, the depth of sustainability problems for broadband will likely be far more acute.

common carriage service, the FCC has preempted the States — both legislatures and commissions — from experimenting with broadband policies that are inconsistent with federal policy for interstate commerce.³⁰ Yet, as stated by Justice Brandeis, “[t]o stay experimentation in things social an economic is a grave responsibility.”³¹ From a complexity theory perspective, the potential negative consequences of federal preemption need to be recognized. “The results of a national policy experiment, if adverse, may ... be more difficult to reverse or modify than those of state experimentation” (Cherry, 2007, p. 401, footnote omitted). Second, in its radical experiment, the FCC has also constrained its own enforcement and policymaking authority by eliminating Title II jurisdiction over broadband. The FCC’s ancillary jurisdiction under Title I is much more restrictive, the scope of which has been called into question in *Comcast v. FCC*. In this way, further (or corrective) federal experimentation by the FCC (the fourth layer of innovation) has been significantly constrained.

Moreover, given that public utility obligations have become embedded in the statutory common carriage framework, the constraints on the second and fourth layers also have adverse consequences for the third layer. The inapplicability of Title II to broadband undermines applicability of the broadened scope of the duty to serve that evolved during the nineteenth century and of universal service policy that developed during the twentieth century. Absent Congressional legislation, it is unclear to what extent the FCC can extend universal service requirements (applicable to narrowband), even as modified under the Telecommunications Act of 1996, to broadband. Furthermore, to the extent that the States are preempted by the FCC’s classification of broadband, the state legislatures and commissions are constrained in enforcing public utility-type obligations or extending intrastate universal service policies to broadband.

The elimination of common carriage principles coupled with federal preemption and the FCC’s self-inflicted jurisdictional constraints have reintroduced forces for instability that the common carriage regime — but not the antitrust regime — had evolved to address. Illustratively, one could substitute “broadband” for “railroads” throughout the Cullom Report and find many of the problems described therein relevant today. It is unclear whether a legal framework, or new experiment, can be developed — without reimposition of requirements similar to those of common carriage, as many of the opponents of network neutrality propose — that will enable broadband infrastructure to be widely available, affordable and reliable.

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³⁰ The FCC has also preempted the states from regulating voice-over-Internet-protocol (VOIP) services.

³¹ For the full quotation from Justice Brandeis, see p. 14, *supra*.

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