Looking Backwards and Looking Forwards in Contemplating the Next Rewrite of the Communications Act

Johannes M. Bauer*

Steven S. Wildman**

*Professor of Telecommunication, Information Studies, and Media and Co-Director Quello Center for Telecommunication Management and Law; Ph.D. in Economics, Vienna University of Economics and Business Administration, Vienna, Austria.

**James H. Quello Chair of Telecommunication Studies and Co-Director Quello Center for Telecommunication Management and Law; Ph.D in Economics, Stanford University.

I. INTRODUCTION

The industries and infrastructure supporting an era of ubiquitous and relatively low cost communication came of age in the twentieth century. For nearly two-thirds of that century, the regulatory framework governing the communication industries was set by the Communications Act of 1934 ("1934 Act"). The framework for regulation created by the 1934 Act reflected both the early United States experience with the telephone and broadcast technologies of that era and the prevailing regulatory philosophy of the time, which viewed government as a corrective for the failures of communication markets prone to monopolization.[1] By the early 1980s, as the 1934 Act was approaching its half-century mark, there was increasing sentiment that the regulatory apparatus created by the 1934 Act had become more of a hindrance than a help to continued progress in the communications sector. Cable television had developed into a potent challenger to incumbent broadcast interests; MCI, Sprint, and other carriers were offering credible substitutes for AT&T's long-distance service, and it was widely anticipated that trends in communication technologies would make it possible to rely on competition, rather than regulatory oversight, to govern an increasing swath of the communications sector. By the early 1990s, the prevailing sentiment was that competition could more efficiently discipline the pricing and quality of communication services than could government using the regulatory apparatus erected under the 1934 Act and that competitive communication markets would develop naturally if market forces were given freer reign.

The Telecommunications Act of 1996 ("1996 Act") was a reflection of this mindset and was widely heralded for ushering in a new era of competition in communications. Yet, only ten years after its passage, the 1996 Act is commonly seen as broken and in need of either wholesale revision or complete replacement. In contemplating new legislation, it is appropriate to ask what accounts for its notable lack of staying power compared to the 1934 Act. Because the 1996 Act is a complex piece of legislation, there are undoubtedly many details, which, had they been handled differently, could have contributed to a more satisfactory experience under the 1996 Act. In this regard, it is doubtful the 1996 Act is different from any other similarly complex piece of legislation. The numerous court challenges and policy revisions in the wake of the 1996 Act could be seen as an inevitable part of a period of reassessment and adjustment as legislation intended to transform a whole sector of an economy is implemented. However, the present disenchantment with the

1. Gerald W. Brock, THE SECOND INFORMATION REVOLUTION 14–15 (2003) [hereinafter INFORMATION REVOLUTION].

1996 Act reflects frustration over a lack of progress in designing even the interim policies that were to smooth the transition to more competitive markets for traditional communication industries—and presumably a post-interim regulatory framework compatible with competitive markets. This disenchantment is also based in a growing sense that the continued evolution of communication technologies and the services built on those technologies have raised a host of policy issues that were not anticipated by the 1996 Act. However, we will argue in this Essay that these are but visible signs of three fundamental challenges of policymaking in industries subject to rapid technological and economic change. First, due to the large number of interacting factors and the associated incomplete information issues, it may not be possible to identify a policy model that links policy instruments with specific policy outcomes. As policies are implemented, they nearly always generate unanticipated consequences. Second, even if problems of incomplete information and uncertainty can be overcome, as the number of stakeholders increases, it becomes more and more difficult to find a solution that is politically feasible and will not be challenged by individual organizations or coalitions of organizations. Third, even if such a model and the associated instruments can be identified, it may not be robust to further changes in industry conditions.

This Essay addresses all three of these issues and possible ways to overcome them more effectively in the future. The next Part briefly discusses the co-evolution of law, technology, and sector organization, comparing changes in communication technologies and industries since 1996 to the changes that occurred during the sixty-two years when the 1934 Act held sway. It illustrates that the most recent pace of technical, economic, and policy change has been self-reinforcing and of a character that could not have been predicted when the 1996 Act was passed. In the following Part, we argue that the difficulties and failures observed to date in designing policies compatible with increased competition in traditional communication industries reflect in substantial part a misplaced belief at the time of the 1996 Act that our understanding of the economics and politics of communications policy justified confident claims as to how competition would develop and work in communication markets and how tradeoffs between economic and noneconomic goals for communications policy might be addressed as competitive forces were given greater sway. To illustrate the incompleteness of the understanding of the economics of communication markets, we briefly recount the highlights of the history of FCC attempts to design rules for network unbundling. A review of the FCC's failed attempt to create a diversity index that would provide an empirical foundation for attempts to balance traditional diversity goals for media policy against societal interests in economic efficiency in media

markets illustrates how poorly the conceptual foundations for developing policy in this area are formed. The final Part draws on the observations of the previous two Parts to offer suggestions for how the process of crafting future communications legislation might be improved.

II. THE CO-EVOLUTION OF LAW, TECHNOLOGY, SECTOR ORGANIZATION, AND PERFORMANCE

The design of law and policy is typically conceptualized as an optimization problem subject to certain technological, economic, and institutional constraints. At the heart of the traditional policy analysis approach is the assumption that societal preferences can be expressed in an objective function: $W=W(\mathbf{x})$. Following the notation of Thrainn Eggertsson,[2] policy model $\mathbf{x}=f(\mathbf{a}, \mathbf{z})$ specifies empirical relations between a vector of policy instruments a, which are elements of a larger set of policy variables A ($\mathbf{a}\in$ A) and vectors of outcomes **x** and external variables **z**. Analytical or computational methods are needed to determine policy instruments that maximize the objective function $W(\mathbf{x}^*)$. If X_z is the set of possible outcomes given the external factors **z**, the goal of public policy is to find the values for the policy variables $\mathbf{a}^*=g(\mathbf{x}^*, \mathbf{z})$, generating outcomes $\mathbf{x}^*$ that maximize the objective function (i.e., $W^*=W(\mathbf{x}^*)$). The traditional view also assumes a clear division of labor between policymakers, who determine $W(\mathbf{x})$ and experts, who reveal the relevant theoretical and empirical relations $f(\mathbf{a}, \mathbf{z})$ and assist in the choice of the optimal policy instrument(s).

Although its execution faces many challenges, this view is justifiable in the short run. Determination of the policy objectives and their weights (the welfare function) is not a trivial problem and is often done implicitly rather than in an open dialogue. Under conditions of incomplete information and uncertainty, it may not be possible to establish a robust policy model. Moreover, it may not be possible to fine tune policy instruments to achieve particular outcomes, especially if time lags exist between the adoption of measures and their effects. Furthermore, political and economic constraints will typically limit the set of feasible policy choices. According to Barbara Cherry, policies are sustainable if the measures are politically adoptable and perform reasonably well with respect to the stated goals.[3] Thus, policies are sustainable if the

2. Thrainn Eggertsson, *Limits to Institutional Reform*, 100 SCANDINAVIAN J. OF ECON., 335–57 (1998).

3. *See* Barbara A. Cherry, Addressing Political Feasibility As Well As Economic Viability Constraints to Achieve Sustainable Telecommunications Policies in the U.S., Paper Presented at the 31st Research Conference on Communication, Information and Internet Policy (2003), http://tprc.org/papers/2003/198/CherryTPRC2003.pdf.

technological, economic, and political forces of change are weaker than the forces favoring preservation of the existing arrangements. It is possible that no such policies exist, for example, because no sufficient policy instrument is known or no politically feasible solution exists. In these cases the set of sustainable policies is empty, and one would expect continuing policy change.

In the medium and long run the predominant policy approach ignores that policies, in addition to the incentives of decision makers, also have feedback effects on the constraints—and thus modify the initial policy problem. In the long run it is therefore more appropriate to view law and policy, technology, sector organization, and sector performance as coevolving, each shaping but not fully determining the other.[4] For example, unbundling rules will affect the investment decisions of the firms bound by these rules and those benefiting from them. Good policy decisions ideally would be based on dynamic models that capture direct short-term and indirect long-term effects of policy instruments. Extending the definition of sustainability, policies can be considered "dynamically sustainable" as long as the existing policy process can adapt existing measures to changing circumstances.

Like other areas of public policy, telecommunications policy is embedded in multiple layers of social arrangements, such as constitutional provisions, statutory provisions, and specific regulatory institutions, to which dynamic sustainability can refer respectively. Dynamic sustainability thus refers to policy at a meta-level, the legal and institutional arrangements of policy, rather than specific instruments. The current debate on rewriting the 1996 Act refers to both notions of sustainability: modifications in specific regulatory instruments and a possible redesign of the overall arrangements guiding the sector.

This framework can also explain the different staying powers of the 1934 and the 1996 Acts and the difficulties of enacting radical changes in existing laws. To keep the subject manageable, in the following discussion of the changes in technologies and industries regulated by the FCC under the 1934 Act, we will restrict our attention to telephony and radio and

4. For a more detailed discussion of the concept of co-evolution as applied to telecommunication policy, see Barbara A. Cherry and Johannes M. Bauer, Adaptive Regulation: Contours of a Policy-Model for the Internet Economy, Address at the 15th Biennial Conference of the International Telecommunications Society (Sept. 15, 2004), http://www.quello.msu.edu/wp/wp-04-05.pdf; *See also* Barbara A. Cherry, The Telecommunications Economy and Regulation as Coevolving Complex Adaptive Systems: Implications for Federalism, Paper Presented at the 32nd Research Conference on Communication, Information and Internet Policy (2004), http://web.si.umich.edu/tprc/papers/2004/318/CherryTPRC04.pdf.

television services. The 1934 Act can be seen as a sustainable policy given the specific circumstances at the time of its promulgation and the fact that the technological advances of the immediately ensuing decades could easily be accommodated within the regulatory framework that the 1934 Act established.

In 1934, telephone calls were transmitted exclusively via copper wires and routed by a system relying on a combination of manual and mechanical switches. The commercial radio industry was less than halfway into its second decade, and inventors were still experimenting with a nascent television technology. While there were a number of heralded advances in telephone technology over the next four decades, including electronic switching, improved multiplexing and hence capacity utilization, for the most part these advances improved the efficiency of the existing network, which was engineered to achieve high economies of scale. Within the purview of the common carrier provisions of the 1934 Act, federal and state regulators adapted the border between monopolistic regulated and nonregulated market segments in response to technical and economic change and user demands.

The breakup of AT&T in 1984 continued this process at an accelerated pace. Digitization dramatically increased processing power and transmission capacity. The rapid growth of wireless communications further destabilized the structural model established by divestiture. The 1996 Act codified the regulatory changes that had been made until then and set out to establish the conditions for competition in the local loop. It thus declared competition the law of the land. By the mid 1990s, the number of stakeholders had grown substantially, rendering it much more difficult to find sustainable policy solutions. Whereas the 1996 Act did reduce cross-entry barriers, it retained by and large the "silo" approach of different legal rules for broadcasting, common carriers, cable television, and information service providers. Its asymmetric design—placing much higher regulatory burdens on ILECs than on CLECs, largely independent of an actual assessment of the specific competitive situations—created further incentives for stakeholders to challenge its provisions. Further technological and economic change, such as the emergence of the Internet and Internet Protocol ("IP") networking in general, continued to challenge some of the basic legal premises of the 1996 Act. Whereas the original networks located the intelligence at the center of the network, in IP networks, intelligence migrated to the edges of the network, making services such as VoIP and softswitching much easier to configure.

The story for the broadcast industries is similar in its basic outlines to that of telephony. Television joined radio as a second broadcast industry in the 1940s and the spectrum devoted to broadcast radio services was

expanded with the addition of the FM band, which did not achieve competitive parity with AM services until the 1970s. Popular radio program formats, including comedies, dramas, variety programs, and soap operas quickly migrated to television and radio adapted to a new niche as a provider of music and talk programming. The number of stations continued to grow with the growing population and wealth of the country. While these changes within the broadcast industry were significant, profits were growing as well and none were a threat to the stability of the existing system.

Cable television, which emerged as a new provider of television services in the 1950s, initially functioned mainly as a retransmission service that imported the signals of distant broadcasters into regions too sparsely populated to support commercial television services. Its role became more competitive to that of broadcasters as cable providers began first to import distant signals into markets with incumbent broadcasters and then to supply cable-originated programming. However, whatever threat cable might have presented to broadcasters was effectively suppressed by FCC regulations that severely restricted cable operators' choices in selecting imported signals. These regulations were justified in part by a belief that cable was a threat to the struggling UHF television stations that the Commission hoped would eventually develop into significant competitors to the limited numbers of VHF stations licensed to serve television markets.

The FCC began to roll back its restrictions on cable television starting in the mid-1970s and Congress substantially deregulated the cable industry with the Cable Act of 1984. The cable industry responded with a proliferation of new cable networks that began steadily taking audience share from broadcasters. Competition from the increasingly popular cable services has been one of the justifications offered for progressive relaxation of broadcast ownership restrictions beginning in the mid-1980s. Direct broadcast satellite ("DBS") services emerged as a second new technology to challenge broadcasters in the mid-1990s, but only after considerable delay due to the need to secure regulatory approval. As cable-like programming services, they could also be accommodated with modest modifications to the existing regulatory framework.

The framers of the 1996 Act responded to these developments by loosening ownership restrictions for both radio and television and by requiring the FCC to periodically review its ownership regulations to ensure that they were not unduly restrictive. The FCC's attempts to revise its ownership policies have floundered in the courts. However, as opponents have successfully argued, the arguments and evidence offered by the Commission on behalf of its proposals was insufficient, especially

when it came to achieving a balance between the economic goals and the noneconomic diversity goals of media policy. The most recent and notable setback for the Commission's diversity policies occurred in June 2004 when the Third Circuit, ruling on *Prometheus Radio Project v. FCC*,[5] remanded to the Commission substantial portions of its July 2, 2003 Report and Order on media ownership ("*2003 Report and Order*"),[6] including its proposed diversity index, which was to serve as a gauge of the consequences of media concentration for the media's contributions to viewpoint diversity. Among other things, the Third Circuit found the Commission erred by giving Internet sources too much weight in the index because the Internet sources of local news identified by the Commission consisted mostly of Web sites maintained by local newspapers and television stations. This situation could change, of course, with the development of Internet news services providing content that does not originate from broadcasting and newspaper organizations.

The difficulties we are experiencing trying to fashion new media policies appropriate to a new media environment are almost certain to intensify. At the time the 1996 Act was written and passed, the commercial Internet was still a largely nascent phenomenon and the elements of the 1996 Act directly affecting broadcasting largely reflected the developments in television and radio services outlined above. Since that time, and especially with growing broadband penetration, the Internet has emerged as the hub of a rapidly restructuring news and entertainment sector. Audio and video downloads and streaming services are growing as both new distribution windows for established content providers and as competitors to established providers. At the same time, telephone companies have seized on Internet Protocol television ("IPTV") as a vehicle for entering the market for pay television services.

From a co-evolutionary perspective, the 1934 Act had staying power because the conditions for sustainability were more easily met. Until the early 1980s, there was a broadly shared vision of the structure and future development of the telecommunications industry and the most appropriate policy framework for it. Revisions such as the Cable Act of 1984 may be seen as dynamic adaptations to technological, economic, and political changes within this accepted overarching setting. The changes introduced during the 1970s and 1980s unleashed powerful forces of transformation, eventually undermining the sustainability of the existing framework. A

5. Prometheus Radio Project v. F.C.C., 373 F.3d 372 (3rd Cir. 2004).

6. *See* 2002 Biennial Regulatory Review—Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996, *Report and Order and Notice of Proposed Rulemaking*, 18 F.C.C.R. 13620 (2003).

more wholesale rewrite was gradually seen as inevitable and garnered the support necessary to become politically feasible. A conceptual model of telecommunications, in which supply- and demand-side changes facilitated ubiquitous competition, was widely adopted.[7] Its conceptual weaknesses were rarely questioned[8] and only revealed much later as the effects of policies based on the 1996 Act became observable. Furthermore, by the early 1990s, the number of stakeholders with conflicting interests had multiplied. Thus in order to pass the 1996 Act—designed as a major reform but not wholesale rewrite—many political compromises had to be accepted.[9] The legal and regulatory status quo ante, such as common carriage principles, embedded in century-old case law, imposed further constraints on the set of feasible solutions.[10]

In hindsight, the specific legislative choices and the regulatory policies rooted in them—most importantly, the asymmetric treatment of players; the continuation of separate regulatory models for different industry segments; and the pursuit of relatively vague, though traditional, social goals while promoting competition in rapidly growing markets—constituted an unsustainable policy model. This was compounded by the continued technological and economic transformation of the communication industries. The U.S. legal and institutional framework offers many avenues to challenge laws and regulations, all of which were pursued by stakeholders. From this perspective, the prolonged period of policy changes can be seen as responses to correct some of the unsustainable features of the 1996 Act. Under conditions as complicated as those in telecommunications, such a piecemeal approach may be the only way forward. On the other hand, as is known from the theory of large technical systems, there is no guarantee that such an approach will actually achieve a local, let alone a global, policy optimum. From this perspective, the task for any redesign of communications law is seen in a different light: to create a framework that supports static and dynamic sustainability without losing sight of the traditional goals of communications policy. Before we address possible ways forward, we will briefly review two areas of policy to illustrate the arguments presented in this Part.

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7. *See* INFORMATION REVOLUTION, *supra* note 1, at 16–20.

8. *See, e.g.*, Harry M. Trebing, *Telecommunications Regulation: The Continuing Dilemma*, *in* PUBLIC UTILITY REGULATION 93 (Kenneth Nowotny et al. eds., 1989) (on file with Authors).

9. *See, e.g.*, Patricia Aufderheide, COMMUNICATIONS POLICY AND THE PUBLIC INTEREST (1999).

10. *See* Barbara A. Cherry, *The Political Realities of Telecommunications Policies in the U.S.: How the Legacy of Public Utility Regulation Constrains Adoption of New Regulatory Models*, 2003 MICH. ST. DCL L. REV. 757.

III. THE INCOMPLETE CONCEPTUAL FOUNDATIONS FOR REGULATORY REFORM

As discussed, policies based on partial models will typically entail unanticipated effects that are not known until after the policies are in place. That is, to a degree all policies are "experiments" with uncertain outcomes. As actual effects become visible, the conceptual foundations will typically be reviewed and the feasibility constraints may be altered to allow for different policy choices. This Part reviews two examples of policies adopted in the wake of the 1996 Act that illustrate these difficulties of policy formation and implementation.

A. Unbundling

While the framers of the 1996 Act envisioned the development of markets for local telephone services populated by numerous competitive facilities-based carriers, it was recognized that markets such as these could only develop over time. To bridge that gap, the Act directed the FCC to design a set of rules that would induce the dominant incumbent carriers to share their facilities and component services with entrants on terms that would lead to prices approximating those that theory predicts for competitive markets served by firms not reliant on competitors for access to critical inputs. Unbundling rules create possibly conflicting short- and long-run effects on incumbent service providers and new market entrants. The net effects of these contradictory incentives were not fully understood at the time the initial unbundling rules were adopted. Policies favorable to new entrants will tend to increase short-run entry by new firms but, other things being equal, slow down facilities upgrades by the incumbent. In contrast, unbundling rules less favorable to new entrants will, other things being equal, lead to less short-term market entry but probably enhance facilities investment by the incumbent. The overall net effect on facilities-based investment and competition depends on the relative strength of these short and long-term effects. It will, furthermore, differ depending on whether a service can be offered using existing facilities (such as voice service) or whether network upgrades are necessary (such as broadband).

In its Local Competition Order of 1996,[11] the FCC focused on voice services and emphasized short-run efficiency conditions. Thus it specified a broad list of network elements that had to be unbundled and adopted Total Element Long-Run Incremental Costs ("TELRIC") as the pricing standard for unbundled network elements ("UNEs"). In subsequent decisions, the

11. *See generally* Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, *First Report and Order*, 11 F.C.C.R. 15499 [hereinafter *Local Competition Order*].

agency required that ILECs rebundle these network elements into service platforms ("UNE-P") that could be used by new entrants to offer voice services with minimal investment. TELRIC was based on the assumption that a state-of-the-art—"greenfield"— telecommunications network was in place.[12] As a result, UNE-P provided functions similar to wholesale voice services but for substantially less than the wholesale prices which were set by a retail price minus avoided cost formula based on embedded costs. That principal framework was expanded to broadband networks when, in 1999, ILECs were required to unbundle the high-frequency loops necessary to offer Digital Subscriber Line ("DSL") service. As the costs of the local loop were recovered in local voice rates, high-frequency loops had to be made available at very low, and in many jurisdictions even zero, costs.[13]

The ILECs challenged the unbundling rules in the courts, leading to a complicated and prolonged process of continuous policy revision. Whereas the details of this process cannot be described here, its main contours can be sketched.[14] In the course of several years, the focus of unbundling policy shifted from existing voice networks to new broadband networks. At a conceptual level, this entailed a stronger emphasis on the dynamic investment incentives of the incumbent service providers rather than short-term efficiency aspects. Gradually, the view that unbundling had positive effects on facilities-based investment via the short-term incentives for new market entry was supplanted by the view that unbundling had overall negative effects on new facilities deployment because it reduced incumbent's incentives to invest. This view was corroborated by the empirical observations that had by then become available, mostly for narrowband voice markets. By 2004, about 17.8% of all end-user switched access lines were provided by CLECs.[15] Sixteen and a half percent of the competitive access lines were based on resale; 57.7% were provided using unbundled network elements, with the majority within this group based on UNE-P; and only 25.9% were based on facilities owned by the CLECs.[16] Moreover, theoretical research indicated that the TELRIC standard was

12. In this context, a greenfield network refers to the type of network that would be installed in an area that previously had no telecommunication services, and thus no older generation infrastructure that might be retrofitted to offer modern, advanced services.

13. *See* Jonathan E. Nuechterlein & Philip J. Weiser, DIGITAL CROSSROADS: AMERICAN TELECOMMUNICATIONS POLICY IN THE INTERNET AGE (2005).

14. For a detailed discussion of the developments until February 2005 see Johannes M. Bauer, *Unbundling Policy in the United States: Players, Outcomes and Effects*, 57 COMM. & STRATEGIES, 59–82 (2005) [hereinafter *Unbundling Policy*].

15. *See* FCC, Indus. Analysis and Tech. Div.: WIRELINE COMPETITION BUREAU, High-Speed Services for Internet Access: Status as of December 31, 2004 (2005), http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd 0705.pdf.

16. *See id*., Tbl 3.

misleading as it failed to incorporate dynamic investment incentives.[17] As the new view became accepted as the new conceptual lens through which unbundling issues were seen, policies were modified accordingly on the FCC's own initiative and upon pressure from the courts. One key area of dispute was the interpretation of the "impairment" standard of the 1996 Act.[18] In *USTA I*,[19] the D.C. Circuit Court of Appeals vacated and remanded the FCC's impairment standard and the list of unbundled network elements based on it, reasoning that the agency's analysis had not been sufficiently granular and that it had not considered the costs of unbundling in the form of reduced investment incentives appropriately. It further vacated and remanded the line sharing provisions, arguing that the FCC had not taken competition from other platforms, such as cable, appropriately into consideration. Partially in response to this decision, the FCC issued its *Triennial Review Order* ("*Triennial Review*"),[20] which adopted a more stringent impairment standard, retained the unbundling framework in narrowband voice markets (UNE-L, UNE-P), but eliminated broadband unbundling requirements by phasing out line sharing over a three-year period and by exempting new fiber deployments from unbundling rules altogether. It also delegated the power to promulgate the more granular rules to the states.

The *Triennial Review* was again challenged in the courts. In *USTA II* (2004), the D.C. Court of Appeals expressly upheld some of its rules, vacated one rule, and vacated and remanded others. The *Triennial Review*'s provisions to phase out line sharing and exempt fiber deployments from unbundling rules were upheld but the delegation of authority to the states was vacated. Earlier FCC findings of impairment in the mass market for switching and dedicated transport were vacated and remanded to the Commission. In a preliminary order in July of 2004,[21] and a final order in

17. *See* David M. Mandy & William W. Sharkey, *Dynamic Pricing and Investment from Static Proxy Models* (OSP Working Paper Series, Working Paper No 40, 2003) *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-238934A2.pdf; Robert S. Pindyck, *Mandatory Unbundling and Irreversible Investment in Telecom Networks* (MIT Sloan Sch. of Mgmt., Working Paper No. 4452-03, 2003), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=480381.

18. Other contested issues, such as the authority of the FCC to promulgate unbundling rules and the TELRIC standard were upheld by appeals courts or the U.S. Supreme Court. *See Unbundling Policy*, *supra* note 14 for more details.

19. U.S. Telecom Ass'n v. FCC, 290 F.3d 415 (D.C. Cir. 2002) [hereinafter *USTA I*].

20. Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking,* 18 F.C.C.R. 16978 [hereinafter *Triennial Review Order*].

21. Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, *Order on Reconsideration*, 19 F.C.C.R. 20293 (2004).

February 2005,[22] the FCC found that the mass market for switching was no longer impaired (thus eliminating UNE-P, which had packaged a local loop, switching, and transportation). The Commission adopted more narrowly targeted rules for transportation markets and high-capacity loops, which have since been challenged in the courts. It also established transition periods to phase in the new rules, allowing gradual price increases for services not subject to unbundling any longer. The latest step in this development came in August 2005, when the FCC declared DSL to be an information service, not subject to common carriage rules. However, at the same time, the FCC adopted a general policy statement in favor of maintaining open access to communication platforms and the Internet.[23] Its four guiding principles entitle consumers to: (1) access lawful Internet content of their choice; (2) run applications and use services of their choice (subject to the needs of law enforcement); (3) connect legal devices of their choice as long as they do not harm the network; and (4) choose among competing network, service, and application providers.

The history of unbundling illustrates key points of the co-evolutionary framework. Under conditions of incomplete information, policies are based on partial models that are widely accepted as a frame to understand the nature of the policy problem and the appropriate responses. As information on the effects of policies becomes available, it needs to be interpreted (again using partial models) and becomes the basis of corrective action. In the process, the conceptual foundations underpinning policy may be improved and refined. However, as the technological and economic conditions of the industry likely have changed, these improved models remain incomplete. To be sustainable, policies further need to meet certain economic viability and political feasibility constraints. All these factors contribute to deviations of actual policies from optimal policies. Once this logic of policy formulation and implementation is acknowledged, the odyssey of unbundling policy appears in a different light, not as policy failure but as adaptation of the policy system to changing industry conditions as the knowledge base applied to address the policy problem grows.

B. Tradeoffs Between Economic and Noneconomic Goals in Media Policy

While the services offered by the mass media are obviously economic

22. Unbundled Access to Network Elements, *Order*, 19 F.C.C.R. 19965 (2004) [hereinafter *Triennial Remand Order*].

23. Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; *Policy Statement*, 20 F.C.C.R. 14986, 36 Comm. Reg. (P & F) 1037 (2005).

in character, policy interests in media performance are much broader due to their central roles in the creation and transmission of cultural products, and perhaps values, and their integration into the very fabric of democratic political systems. It was thus inevitable that the FCC would have to deal with tradeoffs between economic and noneconomic goals for media policy virtually from its inception. The FCC's attempts to balance the economic and noneconomic societal interests in media performance are perhaps most visibly reflected in the various regulations governing ownership of broadcast stations the FCC has crafted over the years. Here the policy debate has focused on the concern that the level of ownership concentration claimed necessary by industry interests to realize various economic efficiencies would reduce, to unacceptable levels, the number of independent media voices available to promote informed deliberation on political issues, and that the supply of programming targeted to variously defined minority audiences would suffer as well. As long as the level of ownership concentration that best serves societal interests in democratic deliberation and content diversity is less than that at which media markets function most efficiently in creating economic value, the growth and evolution of media industries requires that policymakers constantly refine ownership policies to reestablish an appropriate balance between efficiency and diversity goals.

Until the 1996 Act, the trend in broadcast ownership policy had been one of cautious and incremental relaxation of ownership restrictions as the number of stations supported by local markets increased along with a growing population and economy.[24] Policies regarding station ownership were stable for over three decades under the 7-7-7 Rule. The rule limited the number of broadcast facilities that could be owned by a single entity to seven TV stations (with a maximum of five VHF stations), and seven each of FM and AM radio stations, all of which had to be located in separate geographic markets, except for grandfathered exceptions. The FCC increased the ownership caps to 12-12-12 in 1985, and in 1992 it raised the national ownership limits for radio to 18 AMs and 18 FMs, with a scheduled increase to twenty for each type of station in 1994. The 1996 Act eliminated entirely any national cap on radio station ownership and replaced the twelve station cap for television with a rule that limited to 35% the fraction of the national television audience that could be reached through stations owned by any single group owner.[25] The 1996 Act also

24. *See* Robert B. Horwitz, *On Media Concentration and the Diversity Question*, 12 THE INFORMATION SOCIETY, 181, 187–90 (2005) (summarizing the history of the FCC's media ownership rules prior to the 1996 Act).

25. The percent of national audience reachable through a station group's stations is determined by summing over all the local markets served by its stations the percent of the

greatly relaxed restrictions on common ownership of radio stations in local markets, permitting a single owner to control as many as eight stations in the largest markets. Section 202(h) of the 1996 Act also required the FCC to revisit its ownership policies every two years to determine whether they continued to serve the public interest and to make such changes as altered circumstances dictated were appropriate.

The *2003 Report and Order* ("*Biennial Regulatory Review*")[26] reviewed and ordered revisions to six of the Commission's ownership rules and was by far the FCC's most ambitious attempt to respond to this congressional mandate. Perhaps the most notable and controversial feature of the *Order* was the FCC's announcement of its new diversity index ("DI"). The DI was consciously patterned after the Herfindahl-Hirschmann Index ("HHI") employed by the antitrust authorities to evaluate merger applications. Like the HHI, the DI was to serve as a numerical measure of market concentration based on shares of the market controlled by participating media firms and public broadcasters. Antitrust authorities use a market's HHI as a starting point in assessing the relationship between a market's structure and its performance with respect to the efficiency goals of antitrust policy. The DI was intended to serve a similar role in helping media policy officials assess the connection between the ownership structure of the much more broadly defined "diversity" markets[27] and assess their performance with respect to the various diversity goals of communications policy. In substantial part, the DI was the FCC's attempt to respond to a series of legal setbacks, in which the Commission's arguments that rules on media hiring practices and ownership served the public interest in content diversity were rejected by the courts for failure to demonstrate a convincing empirical nexus between the policy in question

national audience residing in these markets. Because UHF stations have weaker signals than VHF stations, they are credited with reaching only a fraction of the audience in each market they serve. Thus, a group owner with UHF stations can serve markets with more than 35% of the national audience before hitting the statutory cap.

26. 2002 Biennial Regulatory Review—Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996, *Report and Order and Notice of Proposed Rulemaking*, 18 F.C.C.R. 13620 (2003), *aff'd in part and remanded in part*, Prometheus Radio Project v. FCC, 373 F.3d 372 (3d Cir. 2004) (remanding the FCC's cross-media ownership limits decisions for justification or modification), *cert. denied*, 125 S.Ct. 2904 (2005).

27. Two or more products may be included in the same economic market if they are sufficiently close substitutes in demand. Two or more media that are not sufficiently close demand substitutes to be included in the same antitrust market may be included in a common "diversity market" for which a DI might be calculated if they satisfy the FCC's criterion that media consumers rely on them substantially for coverage of local news and public affairs.

and the diversity goal it was purportedly intended to serve.[28]

The Third Circuit Court of Appeals' decision in *Prometheus* to remand the DI and other—but not all—elements of the *Biennial Regulatory Review* to the FCC was a resounding defeat. While offering many criticisms of the FCC's arguments in support of the DI, the crux of the court's finding was that the DI suffered from problems of both internal consistency and external validity because the FCC did not have a methodology that it consistently applied to determine which media to include in the index, the weights assigned different media by the index, and the market shares the index assigned to different outlets that were of the same medium.[29] Referring to the decision to assign all broadcast stations of a given type (e.g., radio or television) identical shares, the court stated that "there is no dispute that the assignment of equal market shares generates absurd results."[30] Looking deeper, it is apparent that the failings the court identified in the FCC's attempt to create an index that would reflect a media market's structural proclivities to contribute to the diversity of viewpoints available to its citizens stem from an underdeveloped conceptual and empirical foundation that proved to be wholly inadequate for the task.

Ownership policy to this point had evolved through a series of fairly small incremental steps, each of which represented a politically viable compromise in response to the increased economic and diversity potential inherent in the growing numbers of broadcast outlets and the emergence of new media. While announcements of new policies were always cloaked in the language of the public interest and while it might plausibly be argued that the long-run trajectory of these adjustments was one of improved performance with respect to both the diversity and the efficiency goals of communications policy, such a claim certainly could not have been supported by any empirical measure of performance with respect to either type of goal. By no stretch of the imagination could it be said that new ownership policies were produced through application of a welfare calculus employed to identify new policy optima. The calculus simply did not exist. While the definition of economic surplus that would presumably be central to the efficiency component of such a calculus was conceptually clear and in principle measurable, the same could not be said for diversity. As historically used in communications policy, the term "diversity" has several

28. Horwitz, *supra* note 24, at 193–96 (providing an overview of these decisions).

29. *See* Steven S. Wildman, *Indexing Diversity*, *in* MEDIA DIVERSITY AND LOCALISM: MEANING AND METRICS (Philip M. Napoli, ed., forthcoming) (on file with Authors).

30. *Prometheus*, 373 F.3d at 408 (3rd Cir. 2004).

distinct meanings.[31] Unfortunately, for none of these meanings is there a clear connection to a plausible measure of the efficacy of a democratic system of government. As Horwitz observes, "the meaning of diversity was always problematic and undertheorized."[32]

Given the weak conceptual foundations for the diversity concept and its meaning as a goal for communications policy, the FCC's setbacks with the *Biennial Regulatory Review* are understandable. For radio, especially, the relaxation of ownership rules under the 1996 Act was a break from the incrementalism of prior adjustments. The elimination of national caps and relaxation of limits on the size of local station groups unleashed a process of rapid industry consolidation. That consolidation elevated ownership concentration to levels well outside the comfort zone even of many observers who had taken a pro-industry stance on earlier adjustments. It also turned out that the 35% audience cap on television station ownership set by the Act of 1996 was close to the maximum Congress would tolerate. Both houses of Congress responded to the Commission's proposal in the *Biennial Regulatory Review* to raise the national television audience cap to 45% with bills re-establishing the 35% limit. Under threat of veto by President Bush, they eventually settled on 39%. So changes initiated by Congress pushed the FCC into uncharted territory in which it was difficult to gauge the political repercussions of further adjustments to its ownership rules. Furthermore, the charge to the Commission to periodically review its ownership rules also required that it justify both proposed changes and decisions to retain the status quo. This laid bare the fact it had no cohesive framework with which to structure the supporting analyses. During this same period, the FCC found that it was unable to successfully defend itself against legal challenges to its attempts to change policies linked to various diversity goals because the courts found it had not credibly established a nexus between the challenged rules and the diversity benefits they were supposed to secure.[33]

The FCC responded with a set of studies that were to provide the analytical foundation for a wholesale review of its ownership rules. The end result was the *Biennial Regulatory Review* and the DI used to justify many of the announced changes to its rules. While the effort itself might be lauded, the goal was unattainable. The thinking that underlay the HHI reflected decades of sharply focused scholarship and enforcement experience. As a result, there was widespread agreement on the efficiency

31. Philip M. Napoli, FOUNDATIONS OF COMMUNICATIONS POLICY: PRINCIPLES AND PROCESS IN THE REGULATION OF ELECTRONIC MEDIA 128–48 (2001) (on file with Authors).

32. Horwitz, *supra* note 23, at 181 (quoted from abstract).

33. *Id*. at 193–96.

goals of merger policy, a strong theoretical foundation for the belief that beyond a certain point a market's performance would suffer as ownership concentration increased, and a body of empirical work by economists that provided justification for associating specific values of the HHI with certain expectations for a market's performance. By contrast, diversity itself remains a vaguely defined concept and there is no obvious measure of performance with respect to the goal of improving the efficacy of democratic institutions that diversity is supposed to serve. The upshot is that the DI, a measure of market structure, cannot be grounded in a measure of performance. The FCC's efforts, while notable, could not make up for the gaps in the pre-existing research.

IV. IMPLICATIONS FOR A REDESIGN OF COMMUNICATIONS LAW

Looking forward, the question arises as to how a sustainable legal framework for communications could be designed. This Part discusses several approaches that have been suggested in the recent past, but finds most of them lacking in some respect. We then proceed to outline a more process-oriented approach that takes explicit account of the co-evolutionary nature of policy, technology, and performance.

A. Rethinking the Role of Communications Policy, Law, and Regulation

At a fundamental level, communications law should express the basic principles of communications policy. The policy debate of the past decades has narrowly construed policy as a correction for situations in which private ordering of decentralized decisions does not yield efficient outcomes. This includes the classical cases of market failure in the presence of externalities and public good characteristics, missing property rights that prevent private ordering, and the presence of uncontrolled market power. This approach overlooks that policy also defines the broader framework within which private ordering arrangements exist. Even if all forms of market failure were addressed, society faces choices as to which principles should govern communications. In practice, markets are embedded in and constituted by numerous formal and informal institutional arrangements. Some of the guiding principles, such as the freedom of speech, may be embedded in constitutional law and are subject only to gradual modification. Others reside at the level of statutory law and hence, are subject to a shorter cycle of debate and review. Good examples are the media diversity rules discussed above and universal service policies. Private ordering may address these issues but it is not clear a priori that the outcome would be superior to one shaped by public policy.

Moreover, the outcomes of unfettered market forces may be considered unacceptable or wanting, for example, if they result in an undesirable distribution of costs and benefits. Such "market deficiency" does not only refer to distributional issues but also to broader aspects of communications policy, such as the arrangements governing decision making in this area and rights of individuals to access communication services and information. Moreover, it includes actions by the public sector that facilitate market processes, such as standardization, innovation, and research and development ("R&D"), that are often disparaged in the United States as "industrial policy." Whereas it may be difficult to specify the conditions for success of these policies, they are, nonetheless, important as policy experiments, and nations who pursue them may be able to reap benefits. In our view, it is this latter aspect of public policy that needs broader debate and reflection. Market forces are compatible with a broad set of institutional arrangements, ranging from a pure laissez faire approach to markets more strongly controlled by government or other collective actors. It is not evident that one form or another is superior overall, as has been illustrated by a rich body of research in institutional economics.[34] Rather, different institutional arrangements will lead to different trajectories, different combinations of static and dynamic performance characteristics—including the prices charged for communication services, the diversity of services available, the rate at which new services are introduced to the market, and the ubiquity of access to services and content. As the ranking of different policy frameworks will depend on the weights attached to these performance characteristics, no preferred framework can be identified without a clear specification of these weights.

Not all the institutional arrangements that define this mix are designed by purposive action, as some emerge from the repeated interaction of individuals and organizations. This is possible in areas subject to private ordering, such as unlicensed spectrum, but also in areas with strong public policy involvement such as the unbundling and media ownership cases discussed above. In that former instance, the overall path of unbundling policy may be seen as emergent from multiple smaller purposive actions of actors with different advantages in political clout and market power, and not the pursuit of an initial master plan for an unbundling regime. In the latter case, it seems clear that policymakers were caught off guard by the strength of the forces for ownership consolidation unleashed by the 1996 Act and are still seeking ways to respond to an altered industry landscape.

34. *See, e.g.*, DOUGLASS N. NORTH, UNDERSTANDING THE PROCESS OF ECONOMIC CHANGE (2005); ELINOR OSTROM, UNDERSTANDING INSTITUTIONAL DIVERSITY (2005) (on file with Authors).

Thus, deliberative public policy can only control part of the institutional arrangements that make up the governance structure of communications. Policy can shape, but rarely fully determine, the future direction of the sector and its performance.

Important, but as yet poorly understood, changes in the ability of deliberate policy to control the overall direction of the sector are associated with the transition from monopoly to a more open, competitive framework. For example, Wildman lists eleven critical questions that should be addressed (but largely have not) in constructing an index that might assist in balancing the market efficiency and diversity goals of media policy in ownership rules.[35] Bauer points out that "policy was better able to control important performance characteristics, such as prices or investment levels, during the past monopoly era. However, the ability to control came at the price of the inefficiencies associated with monopoly organization."[36] In contrast, in the present competitive framework, many feasible policy instruments, such as unbundling rules or other forms of regulation of wholesale aspects of communication markets, affect sector performance only indirectly. Overall sector performance becomes an emergent property resulting from decentralized decisions in markets, in addition to, though somewhat outside, the direct control of regulation and policy.[37] Performance is influenced but not fully determined by policy choices. Unexpected consequences, which could be treated as correctable aberrations in the monopoly system, become more common and force policy to continuously adapt. Such an understanding of a dynamic, but in many ways more limited role of policy—as one important factor among others—is critical when conceptualizing the future role of communications law. As public policy and private ordering have their respective costs, the appropriate normative question is to find the mix of (imperfect) collective policy arrangements and (imperfect) private ordering that yield the highest aggregate welfare, given the overall vision for the sector.

B. From Outcome to Process-Oriented Policy

Both the 1934 and 1996 Acts contain outcome-oriented and procedural provisions. Nonetheless, in the statutes and particularly in the regulations based upon those statutes, outcome-oriented provisions dominate. For the reasons discussed in this Essay, and as demonstrated by

35. Wildman, *supra* note 29.

36. *See* Johannes M. Bauer, *Harnessing the Swarm: Communications Policy in an Era of Ubiquitous Networks and Disruptive Technologies*, 54 COMM. & STRATEGIES 19 (2004).

37. This is true for many other areas of public policy, such as monetary policy or fiscal policy. In these areas, the implications have been studied more fully and policy instruments are designed with that knowledge in mind.

the developments after the passage of the 1996 Act, such an approach is unlikely to yield a sustainable framework. Several specific proposals have been made for the basic features of a more appropriate and durable legal framework. Before we conclude this Essay with our own suggestions, we will briefly review a few important aspects of selected proposals. One of the common problems identified by these proposals is the industry-specific (sometimes referred as "stovepipe" or "silo") architecture of the 1996 Act. Although several measures made the strict segmentation of the 1934 Act more porous (e.g., cable-telco cross entry, entry of utilities into telecoms), it retained separate titles for the common carrier, broadcasting, cable, and information services segments of the industry, with industries such as wireless communications straddling several of these titles. Another problem is that regulation is only partially integrated with principles of antitrust and competition policy. Consequently, many proposals are aimed at fixing these flaws. However, with few exceptions, problems associated with the governance of large technical systems, as discussed in our Essay, are largely unrecognized.

Scholars in law, economics, and communications, among others, have discussed design options for communications law and a full review would exceed the scope of this contribution. Concerns about different regulatory models for the different segments of communications were raised since the 1970s and 1980s.[38] Longstaff attempted to develop an integrated framework based on information theory and the general model of communications process developed by Shannon. In this original scheme, legal principles could thus be developed for senders, channels, receivers, and messages, relatively independent of the technology used to enable the communication.[39] More recently, Sidak and Spulber, integrating suggestions made by several others, proposed three principles for the design of a framework enabling the evolution of fair and efficient competition: (1) No service provider should be burdened with regulatory service obligations (economic incentive principle); (2) Incumbent players and new entrants should be allowed to pursue the same kinds of business strategies (e.g., price differentiation or diversification) (equal opportunity principle); and (3) Regulations should be technologically and competitively neutral and apply to all market participants in the same way (impartiality

38. *See, e.g.*, ITHIEL DE SOLA POOL, TECHNOLOGIES OF FREEDOM (1983) (expressing concern that the application of broadcasting regulation to information services would undermine the freedom of speech).

39. *See* Patricia Hirl Longstaff, *Regulating Communications in the 21st Century: New Common Ground*, *in* THE INFORMATION RESOURCES HANDBOOK: RESEARCH FOR THE INFORMATION AGE 453 (Benjamin M. Compaine & William H. Read, eds., 1999).

principle).[40]

Based on similar reasoning, several authors have suggested that a horizontal, layered legal model would be more appropriate to the challenges facing communication industries. In this approach, different layers, such as the physical network, the logical addressing and signaling infrastructure, services and applications, and content are distinguished, and legal and regulatory measures are targeted to them, independent of the technological solution.[41] The new European regulatory framework, in effect since July 2003, is strongly inspired by such a horizontal design principle. However, there are reasons to believe that, while a horizontal approach will better reflect the actual structure and operation of today's communication industries, the seemingly clear horizontal layer structure of IP networks will be replaced by yet other, perhaps hybrid forms.[42] Therefore, despite its apparent advantages over the present model, establishing a horizontal framework may not be a long-term sustainable strategy either.

When the 1996 Act was passed, there was great hope that robust competition would emerge in access networks. Ten years later it is obvious that the predictions of skeptics who anticipated the emergence of an oligopoly structure have more accurately anticipated the actual developments. For some time to come, local access markets will best be characterized as duopolies with a competitive fringe composed of wireless, satellite, and powerline service providers. The incentives of network owners under such market conditions are ambiguous. Whereas, under some conditions platform owners will have incentives to voluntarily sell access to their platforms to competing service providers, there are also conditions for which this conclusion does not hold.[43] In response to these concerns, which are particularly pertinent in a broadband environment in which many innovations and services are offered at the higher levels of the network and thus dependent on platform access, several scholars have promoted a "net

40. *See* J. Gregory Sidak & Daniel F. Spulber, *Deregulation and Managed Competition in Network Industries*, 15 YALE J. ON REG.117 (1998).

41. *See, e.g.*, Kevin Werbach, *Digital Tornado: The Internet and Telecommunications Policy* (OPP Working Paper Series, Working Paper No. 29, 1997), *available at* http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp29.pdf; Martin Fransman, *Mapping the Evolving Telecoms Industry: The Uses and Shortcomings of the Layer Model*, 26 TELECOMM. POL. 473 (2002).

42. *See* David D. Clark, *Open Access*, Paper Presented at the Georgetown University Symposium: Must History Repeat Itself? Interoperability and Access in the Network Economy (Oct. 12, 2005).

43. *See* Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 HAR. J. OF L. & TECH. 85 (2003).

neutrality" model, in which certain minimal standards are in place that prevent incumbents from abusing their control of access to ultimate customers in an anticompetitive fashion.[44] It is not yet fully worked out how net neutrality would be implemented, but it does not necessarily imply an intrusive approach, or the mandating of a "dumb pipe" as some of its critics imply.[45] It is possible that minimal principles of nondiscrimination and a process to quickly address complaints of violations may be developed. Such an approach would have potential advantages over an antitrust framework, which risks lengthy legal proceedings. At an aggregate level, recent observations of the innovation patterns in Southeast Asia and in Europe seem to lend some support to the claim that safeguards against platform closure may have positive net effects on innovation.

Recently, the Digital Age Communications Act Project, organized by the Progress and Freedom Foundation, attempted to develop a comprehensive blueprint for future communications law.[46] As the project's output has inspired a Senate Bill, it shall be discussed in slightly more detail.[47] Most pertinent for our discussion is the proposal by the regulatory framework working group. Given convergence and the emergence of multiple service providers, the report proposes to base communications policy on principles of competition law. A regulatory agency would largely work via adjudication as cases emerge, rather than through an "elaborate web of rules and regulations."[48] This approach is modeled after the Federal Trade Commission, which was designed to operate in this manner. In addition, a communications regulatory agency would be empowered to mandate interconnection "in situations where markets are not adequately providing interconnection and in which the denial of interconnection would substantially harm consumer welfare."[49] Lastly, the report acknowledges the need for a transition period. All these features have merit and might result in a sustainable framework for communications policy. However, the

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44. *See* Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. OF TELECOMM. & HIGH TECH. L. 141 (2005).

45. *See* Christopher S. Yoo, Beyond Network Neutrality, 19 HARV. J.L. & TECH. (2005); Adam Thierer, *Are "Dumb Pipe" Mandates Smart Public Policy? Vertical Integration, Net Neutrality, and the Network Layers Model*, 3 J. OF TELECOMM. & HIGH TECH. L. 275 (2003).

46. The project comprised working groups addressing the following issues: regulatory framework, spectrum policy, institutional reform, universal service/social policy, and on the federal/state framework. *See* http://www.pff.org/daca/ (archiving the proposals drafted by the working groups).

47. *See* Digital Age Communications Act of 2005, S. 2113, 109th Cong. (2005).

48. *See* The Progress & Freedom Foundation, Proposal of the Regulatory Framework Working Group 3 (2005), http://www.pff.org/issues pubs/other/050617regframework.pdf.

49. *Id*. at 4.

approach might be criticized for construing the role of policy too narrowly, as simply an adjudication of competition issues, and for not properly recognizing that policy sets the overarching framework within which markets and competition arise. This broader framework defines the fundamental vision for the communication industries and is thus of critical importance. At the time of writing, the project's social policy recommendations were not yet available, and they may address some of these broader issues. The view emerging from the "Regulatory Framework" proposal of the Digital Age Communication Act Project is one of unfettered competition. Whether the assumption that competition will outperform any other type of arrangement in promoting the proper goals of communications policy is correct will only be revealed as experience accumulates.

V. WAYS FORWARD

If law, technology, sector organization, and performance are seen from a co-evolutionary perspective, their close interdependence is recognized. Policy is not only an instrument to correct for forms of market failure and resolve competitive disputes. Rather, it shapes the future development of communication markets in more fundamental ways. Good policy needs to recognize these dynamic interactions and use comparative analytical tools that allow anticipating and simulating different sets of rules and their implications. None of the proposals reviewed in the previous section meet this requirement. The most important role of a policy is to define the overall framework for the sector: the rights and obligations of the stakeholders and processes for settling conflicts. Market forces and competition unfold within these general rules—the constitution of the market. The specific provisions of this constitution should be tied to their effects on the overall performance of the sector and be subject to periodic review. In the new environment of communication industries, it is this constitutional level at which communications policy probably will have the most lasting effect. At the level of more specific rules and regulations, policies will have a more indirect relation to overall sector performance. Competitive and technological neutrality are in principle desirable features but they may not always make sense nor be easy to operationalize. At this level, policy ideally would be flexible and adaptive to changing circumstances. Private ordering with an adjudicatory role for a regulatory agency might meet this goal well, but this should not be taken as a given.