Uncreative Destruction: The Misguided War on Vertical Integration in the Information Economy

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TABLE OF CONTENTS

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I. INTRODUCTION

Are information sectors sufficiently different from other sectors of the economy such that more stringent antitrust standards should be applied to them preemptively? Professor Tim Wu responds in the affirmative in his book, *The Master Switch: The Rise and Fall of Information Empires*.[1] Having successfully pushed net-neutrality regulation into the policy spotlight,[2] Wu turned his attention to what he regards as excessive market concentration and threats to free speech throughout the information economy.[3]

To support his call for increased antitrust intervention, Wu provides a unique view of competition in the information economy that substantially deviates from mainstream antitrust theory.[4] First, Wu contends that "information monopolies" are pervasive in the information economy.[5] Wu's "monopolists" include Facebook, Apple, Google, and even Twitter.[6] In *The Master Switch* and an article entitled *In the Grip of the New Monopolists*, Wu argues that these so-called monopolies are increasing their market power; requiring more aggressive oversight and regulation.[7]

Second, Wu argues that traditional antitrust analysis is not sufficient for information systems because they carry speech.[8] He claims "[i]nformation industries . . . can never be properly understood as 'normal' industries," and traditional forms of regulation, including antitrust enforcement, "are alone inadequate for the regulation of information industries."[9] Wu believes that because information industries "traffic in forms of individual expression" they are "fundamental to democracy," and should, therefore, be subject to greater regulatory treatment.[10]

Third, in contrast to current competition law's focus on horizontal agreements, Wu desires reinvigorated regulatory enforcement addressing "the corrupting effects of vertically integrated power" in the information sectors.[11] He is particularly concerned about private threats to free speech

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1. *See generally* TIM WU, THE MASTER SWITCH: THE RISE AND FALL OF INFORMATION EMPIRES (2010) [hereinafter THE MASTER SWITCH].
2. *See generally* Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. TELECOMM. & HIGH TECH. L. 141 (2003).
3. Tim Wu, *In the Grip of the New Monopolists*, WALL ST. J. (Nov. 13, 2010), http://online.wsj.com/article/SB10001424052748704635704575604993311538482.html.
4. *Id.*
5. *Id.*
6. *Id.*
7. *Id.* (stating also, incorrectly, that cable operators have a monopoly over broadband Internet service); *see also* THE MASTER SWITCH, *supra* note 1, at 303.
8. THE MASTER SWITCH, *supra* note 1, at 303.
9. *Id.* at 301-02, 03.
10. *Id.* at 301-02. This argument may be at odds with the First Amendment, since courts use a higher level of legal scrutiny on media-focused regulations.
11. *Id.* at 307.

arising from such vertical integration.[12] Wu's solution is to prevent vertical mergers in the information economy and mandate divestitures of vertically integrated companies.[13] To implement this, Wu proposes a "Separations Principle" for the information economy which would place information providers into three buckets, which this article has categorized as: information creators, information distributors, and hardware makers.[14]

This article outlines Wu's "Separations Principle," explains why Wu's fears regarding vertical relationships should be rejected by regulatory and antitrust policymakers, and illustrates the legal and practical problems Wu's proposed principle poses. This article also argues that there are widely accepted benefits of vertically integrated firms, and the antitrust harms Wu fears are not present. Further, this article shows that Wu's remedies are really policy preferences cloaked in the language of competition law. In fact, the information economy is largely competitive and does not warrant the interventionist enforcement approach Wu advocates. Since much of American economic vitality flows from the information economy and technology,[15] policymakers should reject a radical antitrust remedy like Wu's preemptive Separations Principle.

II. THE SEPARATIONS PRINCIPLE

A. *The Proposal*

In the final chapter of *The Master Switch,* Wu outlines his Separations Principle for the information economy,[16] a framework of industrial organization that, if adopted, would radically expand antitrust enforcement in information technology markets and grant vast new powers to federal regulators.[17] He writes,

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12. *See id.*

13. *Id.* at 304.

14. *Id.*

15. Studies have linked technological innovation to three-quarters of the U.S. economy's post-World War II growth. *See* ARTI RAI ET AL., U.S. DEP'T OF COMMERCE, PATENT REFORM: UNLEASHING INNOVATION, PROMOTING ECONOMIC GROWTH & PRODUCING HIGH-PAYING JOBS (2010), *available at* http://www.commerce.gov/sites/default/files/documents/migrated/Patent_Reform-paper.pdf. Berkeley economist Enrico Moretti estimates "innovation" firms like Apple create five other jobs for every Apple job. *See* Eduardo Porter, *The Promise of Today's Factory Jobs*, N.Y. TIMES (Apr. 3, 2012), http://www.nytimes.com/2012/04/04/business/economy/the-promise-of-todays-factory-jobs.html.

16. THE MASTER SWITCH, *supra* note 1, at 299-319.

17. Other scholars have proposed similar structural remedies. Timothy Bresnahan writes,

> The computer industry has changed to new modes of competition, which we do not yet fully understand. The determinants of computer industry structure

> A Separations Principle would mean the creation of a salutary distance between each of the major functions or layers in the information economy. It would mean that those who develop information, those who own the network infrastructure on which it travels, and those who control the tools or venues of access must be kept apart from one another.[18]

Wu concedes that it is radical to contemplate placing these "constitutional" restrictions on private actors, but says his idea is inspired by a long line of policy reformers, like Justice Brandeis and President Andrew Jackson, who had similar ideas regarding the dangers of market concentration and power.[19] Wu insists that this structural remedy "is not a *regulatory* approach but rather a *constitutional* approach to the information economy" because he models it on the constitutional principle of separation of powers.[20] This is an especially inapt comparison, however, because the Constitution focuses on constraining the powers of government, not businesses. As media historian Paul Starr noted in a review of *The Master Switch*, Wu "doesn't really mean constitutional in a 'formal' sense. Actually, what he means is regulation—he just can't bring himself to admit it."[21] It makes little difference how Wu describes his proposal. The practical result of his Separations Principle would be welfare-reducing regulation of the information economy.

B. A New Spin on an Old Debate

Concerns about the benefits and harms of vertical integration were largely resolved decades ago in the economics and antitrust literature. Wu is dissatisfied with the state of competition in the information economy and does not believe that the antitrust agencies—with their focus on social welfare calculations, efficiencies, and horizontal relationships—can prevent the sort of societal and competitive harms about which he is

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> offer . . . excellent opportunities for monopolization . . . . Modest interventions (banning certain clearly anticompetitive practices, for example) will have very small impacts. Only quite substantial interventions (structural ones) are likely to be efficacious.

Timothy Bresnahan, *New Modes of Competition: Implications for the Future Structure of the Computer Industry* 3 (Stanford Inst. for Econ. Policy Research, SIEPR Discussion Paper 500, 1998), *available at* http://siepr.stanford.edu/publicationsprofile/1885. *See also* Mark A. Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. R. 925, 942 (2001) ("Preserving competition is especially important given how little we know about how the broadband market will develop. The Internet market generally has been characterized by massive shifts in the competitive center.").

18. THE MASTER SWITCH, *supra* note 1, at 304.
19. *Id.* at 301.
20. *Id.* (emphasis in original).
21. Paul Starr, *The Manichean World of Tim Wu*, AM. PROSPECT, June 9, 2011, at 63.

concerned.[22] Wu disapproves of the economic orthodoxy today that tolerates what he regards as "industrial dominations" and "imperial growth and overreach"[23]—no doubt referring to the general acceptance in antitrust theory of Chicago School economics,[24] the school of thought that displaced the interventionist Harvard School approach in the 1970s. In the end, marketplace evidence supported Chicago School's economic analysis relative to the Harvard School's structural focus.[25] He is troubled by Americans' "relative indifference to the danger of private power," the "sanctification of private property,"[26] and the current interpretation and enforcement of antitrust statutes.[27] In Wu's estimation, Chicago School-style "economic vitality" depends "on the freedom of the economic system to rise and fall, crash and burn."[28] The problem, Wu says, is that respected economic thought accepts the booms and busts "as intrinsic to the free-market system . . . ."[29] In light of the current state of antitrust enforcement, he says, a radical overhaul of competition law is needed.

Whether intentional or not, Wu's call for renewed focus on vertical relationships resembles the so-called inhospitality tradition in antitrust, which was characterized by a deep suspicion of vertically integrated firms because they, allegedly, can foreclose entry of competitors and otherwise

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22. THE MASTER SWITCH, *supra* note 1, at 307.

23. *Id.* at 301-03.

24. *See* Christopher S. Yoo, *Vertical Integration and Media Regulation in the New Economy*, 19 YALE J. REG. 171, 200-01 (2002). We use "Chicago School" liberally to include the derivative post-Chicago and neo-Chicago iterations, which employ somewhat different antitrust analyses but are all driven by economic analysis and not the structural concerns Wu and the Harvard School emphasized. "If reliance on economics is the sine qua non of the Chicago School, then there is certainly nothing new about either Post-Chicago or Neo-Chicago antitrust analyses. Both embrace economics as the mode of analysis." Bruce H. Kobayashi & Timothy J. Muris, *Chicago, Post-Chicago, and Beyond: Time to Let Go of the 20th Century*, 78 ANTITRUST L.J. 147, 159 (2012). For more about the Chicago School and its later iterations, see Herbert Hovenkamp, *Post-Chicago Antitrust: A Review and Critique*, 2001 COLUM. BUS. L. REV. 257 (2001).

25. *See, e.g.*, Timothy J. Muris, *Improving the Economic Foundations of Competition Policy*, 12 GEO. MASON L. REV. 1, 10 (2003) ("The [structure-conduct-performance] paradigm was overturned because its empirical support evaporated."); Timothy J. Muris, *Economics and Antitrust*, 5 GEO. MASON L. REV. 303, 306 (1997) ("Although a majority of antitrust economists and legal scholars prior to [the early 1970s] almost certainly believed that concentration was a major problem, that consensus collapsed.").

26. THE MASTER SWITCH, *supra* note 1, at 300.

27. *See, e.g.*, Robert H. Lande, *Chicago's False Foundation: Wealth Transfers (Not Just Efficiency) Should Guide Antitrust*, 58 ANTITRUST L.J. 631, 632 (1989) (asserting a nontraditional understanding of the primary purpose of antitrust laws); Elbert L. Robertson, *A Corrective Justice Theory of Antitrust Regulation*, 49 CATH. U. L. REV. 741, 741 (2000) (proposing a theoretical alternative to dominant and conventional economic, efficiency-based theories); Barbara A. White, *Black and White Thinking in the Gray Areas of Antitrust: The Dismantling of Vertical Restraints Regulation*, 60 GEO. WASH. L. REV. 1, 1-2 (1991) (commenting on the incursion of modern efficiency analysis on the Supreme Court's antitrust posture).

28. THE MASTER SWITCH, *supra* note 1, at 301.

29. *Id.*

harm competition.[30] During that era, decades ago, antitrust policy was designed, in the words of a federal court of appeals, to "perpetuate and preserve, for its own sake and in spite of possible cost, an organization of industry in small units which can effectively compete with each other."[31] The Chicago School and the rise of transaction cost economics, however, revolutionized economists' interpretation of non-standard contracts and ultimately replaced the inhospitality tradition in the late 1970s.[32]

Consequently, current economic thinking has a greater appreciation for the benefits of vertical integration in promoting inter-brand competition and innovation in distribution, and courts applying the antitrust laws have generally been persuaded by this approach. With surprising frankness, Wu rejects the modern approach and argues that "what was understood in the 1970s, and what needs to be understood again, is the role of . . . restrictions in preserving both the free market of goods and services and the free market of ideas."[33]

Wu's central contention in the book is that U.S. industrial structure determines the limits of free speech.[34] The information economy comprises the "speech industry," he says, and since speech is carried on privately owned platforms he worries that private actors will limit free speech.[35] Like

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30. Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 4-99 (1984) (describing the inhospitality tradition); Yoo, *supra* note 24, at 186-87 (recalling the dominance of the leverage theory of vertical integration that became orthodoxy in the courts); Oliver Williamson, *Antitrust Enforcement: Where It's Been, Where It's Going*, 27 ST. LOUIS U. L.J. 289, 289-92 (1983) (describing the adoption of entry barrier arguments by the courts); *see generally* Leonard W. Weiss, *The Structure-Conduct-Performance Paradigm and Antitrust*, 127 U. PA. L. REV. 1104, 1105 (1979) (warning of non-competitive structure and conduct).

31. United States v. Aluminum Co. of Am., 148 F.2d 416, 429 (2d Cir. 1945). For an argument for the return to pre-Chicago School enforcement in light of 1990s media mergers, see Patrick Cox, *What Goes up Must Come Down: Grounding the Dizzying Height of Vertical Mergers in the Entertainment Industry*, 25 HOFSTRA L. REV. 261, 312-13 (1996).

32. *See* Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 932 (1979) (noting that the predominant law and economics paradigm is the Chicago School analysis); *see also* ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF, at xi (1st ed. 1978) ("The primary characteristics of the Chicago School of antitrust are two. The first is the insistence that the exclusive goal of antitrust adjudication, the sole consideration the judge must bear in mind, is the maximization of consumer welfare. The judge must not weight against consumer welfare any other goal, such as the supposed social benefits of preserving small businesses against superior efficiency. Second, the Chicagoans applied economic analysis more rigorously than was common at the time to test the propositions of the law and to understand the impact of business behavior on consumer welfare."); Edwin J. Hughes, *The Left Side of Antitrust: What Fairness Means and Why It Matters*, 77 MARQ. L. REV. 265, 271 ("By . . . 1980, the Supreme Court's antitrust jurisprudence of the 1960s was widely considered to be intellectually bankrupt.").

33. THE MASTER SWITCH, *supra* note 1, at 310.

34. *Id.* at 121.

35. *Id.* at 122-23.

his mentor, Harvard University law professor Lawrence Lessig,[36] Wu seems to accept that he cannot displace the dominant role of Chicago School doctrine in modern antitrust law and its acceptance in the federal courts, so he attempts to highlight a compelling reason for intervention into the information economy.[37] That compelling reason is the unique role of speech in an effective democracy.

Antitrust practice today, Wu says, is unsuitable for the information economy since speech is so intertwined.[38] He says information industries, which carry speech, are just different from "normal" commodity industries.[39] These industries are fundamental to democracy and the efficiencies and utility with which antitrust concerns itself misses the bigger picture.[40] Behind every political revolution or genocide is not "orange juice, heating oil, [or] running shoes," but a partnership with mass media.[41] Wu suggests that without a Separations Principle, vertically integrated firms in the information economy will be tempted to engage in damaging private censorship like the film industry did in earlier decades.[42] Immediate action is needed, he says, because "by the FCC's own

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36. *See generally* LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 3 (Basic Books 1999) (expressing the idea that computer code may regulate conduct in much the same way that legal code does); Lawrence Lessig, *The New Chicago School*, 27 J. LEGAL STUD. 661, 665 (1998) (explaining that the Old Chicago School diminishes the significance of the law in regulation); Mark A. Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. REV. 925, 928 (2001) (addressing the question of "open access" and its relationship to the architecture of the Internet).

37. THE MASTER SWITCH, *supra* note 1, at 308-19.

38. THE MASTER SWITCH, *supra* note 1, at 303-04 (noting that antitrust "laws alone are inadequate for the regulation of information industries . . . [T]here is the problem of taking an after-the-fact approach to a commodity so vital to our basic liberties: a framework that has worked well enough for oil and aluminum is ultimately unsuited to an industry whose substrate is speech.").

39. *Id.* at 301-02.

40. *Id.* at 302-03.

41. *Id.* at 302. Presumably to strengthen the moral urgency for his recommendations, Wu frequently compares dominant American firms to authoritarian regimes. He draws a parallel between Ford's mass production of the automobile and Joseph Goebbels' desire to control radio. *Id.* at 13. He writes, "[A]llying itself with the state, a dominant industrial force can turn a potentially destructive technology into a tool for perpetuating domination and delaying death." *Id.* at 28. He asserts, AT&T's "power . . . over American culture and communications [was] . . . comparable in structure only to what the fascist and Communist regimes in Europe were creating." *Id.* at 79-80. He compares the consolidation of the American broadcast radio industry in the 1930s to the concurrent efforts of the Nazis to centralize radio. *Id.* at 84-85. He compares the Film Trust's alliance to the alliance between Trotsky and Stalin, *id.* at 89, and he compares Harry Tuttle's fight against AT&T to a Robert De Niro character's fight against a totalitarian state, *id.* at 114. He describes how Catholics and the film industry for decades "practice[d] . . . a censorship to rival that of any authoritarian regime." *Id.* at 116-19.

42. *Id.* at 305-06.

reckoning, the cable companies will soon enjoy an uncontested monopoly over broadband Internet in much of the United States."[43]

Adoption of the Separations Principle means both the dissolution of existing vertically integrated media entities and the prevention of future mergers that would result in vertical market power.[44] To implement the Separations Principle, Wu proposes three complementary responses. First, the Federal Communications Commission ("FCC") will be the primary enforcer of these vertical separations. The FCC, he says, currently has the authority to block mergers and compel divestitures in accordance with the Separations Principle and should act immediately to prevent further harms.[45] Wu is not convinced that the FCC could perpetually play neutral umpire in this role, however, and fears industry capture or influence, which leads to his second proposed response.[46] Should the FCC fail at preventing a merger across categories or fail to enforce separations, the antitrust agencies—the Federal Trade Commission ("FTC") and the Department of Justice ("DOJ") Antitrust Division—will need to step in.[47] Even then, Wu says, it would be difficult to force this regime on an unwilling industry. He hopes industry players would adopt norms of openness and compliance; only then could the Separations Principle achieve its objectives.[48] Wu's justification for the Separations Principle is that eliminating vertical integration would prevent "one layer from smothering the others."[49] This is a more traditional competition rationale for antitrust and other forms of regulation. We address this concern in section III.

III. COMPETITION AND VERTICAL INTEGRATION

Under current antitrust law, vertical restraints and integration are very rarely determined to be illegal per se.[50] Relative to the inhospitality era, vertical mergers are infrequently blocked and concerns about vertical merger consequences have been "essentially forgotten," according to two

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43. *Id.* at 302.

44. *Id.* at 311.

45. *Id.* at 311-12. The FCC has the authority to review license transfers but should not be able to block transactions because of antitrust concerns. *See* Comments of Geoffrey A. Manne, Exec. Dir. of Int'l Ctr. for Law and Econ. & Berin Szoka, President of TechFreedom, *App'n of Cellco P'ship d/b/a Verizon Wireless and SpectrumCo LLC for Consent to Assign Licenses*, FCC WT Docket No. 12-4 (rel. Mar. 26, 2012), *available at* http://techfreedom.org/sites/default/files/VZ_SpectrumCo_filing_0.pdf.

46. THE MASTER SWITCH, *supra* note 1, at 311.

47. *Id.* at 312.

48. *Id.* at 313.

49. *Id.* at 306.

50. *See* Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ANTITRUST L.J. 135, 143 (1984). Since 2007, all vertical restraints are analyzed under the rule of reason and are not per se antitrust violations. *See* Leegin Creative Leather Prods. v. PSKS, Inc., 551 U.S. 877, 907 (2007) (overturning a 96-year old precedent prohibiting vertical retail price maintenance).

reviewers of the vertical integration literature.[51] Firms using vertical restraints and integration are constrained by competition from other producers,[52] and vertical arrangements can increase interbrand competition.[53] Further, because of the ambiguous welfare effects of this type of integration and the costs of disintegration, structural separation of vertically integrated firms is a rarely used remedy in antitrust.[54] Wu accepts that his Separations Principle sacrifices some of the benefits of industry concentration and that this will reduce some social welfare.[55] He suggests these sacrifices are worth it to gain new forms of speech and the technical innovation that would otherwise be excluded for the sake of "perfection and empire."[56]

Many readers may be puzzled that Wu recommends such a drastic shift in industrial organization policy in the information industries. By Wu's own account, we "live in what is in some ways an informational golden age. Television, the Internet, film, and mobile devices each force one another to become better."[57] Why, then, break up some of the most innovative companies in the world after they have brought us this golden age? The reason, he says, lies in foreseeable and probable future risks. The convergence of all media channels into a single distribution platform—the Internet—makes the entire system imminently at risk of "a new imperial age."[58] He lists possible controllers of the master switch: NBCU-Comcast; AT&T; Apple; and maybe Google.[59] Because we cannot know which firm will seize the switch, Wu's final chapter argues, we must compel separations of these firms before it is too late.

Aside from its speculative nature, the economics of industrial organization do not portend a likelihood of a single owner of the Internet. Underlying Wu's concern is the concentration of private power and the ability of vertically integrated firms to exclude existing competitors, new rivals, and technological innovations that might displace incumbents.

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51. Francine Lafontaine & Margaret Slade, *Vertical Integration and Firm Boundaries: The Evidence*, 45 J. ECON. LITERATURE 629, 662 (2007). Vertical integration is now lawful, for instance, even when a monopolist content producer (like a newspaper) integrates into distribution or refuses to deal with a distributor. *E.g.*, Paschall v. Kansas City Star Co., 727 F.2d 692, 704 (8th Cir. 1984) (en banc) (holding that "[it is not] unlawful *per se* for a monopolist to unilaterally refuse to deal with a former distributor or to vertically integrate"). Most vertical arrangements are subject to rule of reason analysis by courts; that is, firms cannot have unreasonable vertical restraints that harm competition.

52. *See* Alan J. Meese, *Reframing Antitrust in Light of Scientific Revolution: Accounting for Transaction Costs in Rule of Reason Analysis*, 62 HASTINGS L.J. 457, 468, n.41 (2010).

53. *See id.* at 507-09.

54. *See* Robert W. Crandall, *The Failure of Structural Remedies in Sherman Act Monopolization Cases*, 80 OR. L. REV. 109, 197-98 (2001).

55. THE MASTER SWITCH, *supra* note 1, at 305.

56. *Id.*

57. *Id.* at 317.

58. *Id.* at 318.

59. *Id.*

Antitrust is a form of common law and subject to change,[60] so it is worthwhile to examine this new challenge to the prevailing enforcement norms should Wu's proposal gain traction. This section argues that these fears are not supported by economic evidence. The information economy is competitive and firms have incentives to open their platforms to horizontal and vertical complements, but there are also efficiency benefits available to vertically integrated firms. We make the case that it would be a mistake to sacrifice the substantial competitive and efficiency benefits present in vertical integration to prevent the speculative future harms to competition and, by extension, free speech.

A. *Benefits of Complements and Tying*

Here we consider the vertical arrangements between information creators and information hardware makers (buckets one and three under Wu's scheme). Wu's fears stem from the ability of firms to exclude rivals or speech. Since the rise of the Chicago School in the 1970s, antitrust scholars generally have been skeptical of these sorts of claims about vertical integration because a firm should normally have incentives to deal reasonably with providers of complementary applications.[61] Engaging in behavior that discriminates against complements often devalues the platform,[62] and this is true in the information economy. That firms internalize complementary externalities does not mean platform proprietors will never favor their own affiliates[63] (an issue to which Wu is sensitive, given his views on net neutrality). It does mean, however, that platform proprietors generally do not have an economic incentive to exclude competitors in ways that distort competition and harm consumers. Since firms can sometimes lower transaction costs by replacing a competitor's complement with their own product, lower costs and greater convenience can be passed on to consumers.[64] Favoring affiliates, then, can increase consumer welfare compared to bargaining with an independent firm or competitor.

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60. Easterbrook, *supra* note 50, at 136-38.

61. Jonathan E. Neuchterlein, *Antitrust Oversight of an Antitrust Dispute: An Institutional Perspective on the Net Neutrality Debate*, 7 J. TELECOMM. & HIGH TECH. L. 19, 40-41 (2009); *see also* Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 HARV. J.L. & TECH. 85, 87 (2003).

62. Neuchterlein, *supra* note 61, at 41.

63. *Id.*

64. These lower costs could arise by reducing hold up costs associated with pairing one's product with a competitor's, see Lafontaine & Slade, *supra* note 51, at 649, or perhaps through elimination of packaging costs or some other reduction in marginal costs. These efficiencies are accepted as existing but are difficult to document. David S. Evans & Michael Salinger, *Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law*, 22 YALE J. REG. 37, 83-84 (2005). *See also* Ronald H. Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937).

Wu cites an example where Apple was forced to decide whether to permit a complementary service or exclude it, but he mischaracterizes the reason Apple decided to permitt a competing service.[65] While Skype does compete directly with Apple's FaceTime, Apple's decision not to prohibit Skype on its phones is consistent with profit-maximizing behavior. Since discriminating against complements often devalues the platform, it is at best incomplete for Wu to say that Apple allowed Skype on its iPhone because Apple was abiding by powerful tech norms that discourage blocking applications ("apps").[66] While norms might discourage firms from blocking apps from competitors, those norms are always present and do not explain why Apple allows Skype but prohibits other competing services on its phones. This selective discrimination by Apple is consistent with profit-maximizing behavior because sometimes exclusion will devalue a platform (here, the iPhone) and sometimes exclusion will actually increase a platform's value to consumers. Skype is a popular voice-over internet protocol ("VoIP") application with over 600 million users.[67] Apple is infamous for its heavy-handed policies toward third-party apps,[68] but blocking Skype would devalue the iPhone to users, millions of whom prefer Skype to other VoIP apps.[69] The decision to include or exclude competitors on a firm's platform is a complex business decision with many variables; exclusionary incentives are often counterbalanced by a potential devaluation of the platform, and even where exclusion occurs, the resulting vertically integrated platform will approximate what competitors offer to attract consumers.

Wu also condemns what would be called *tying* or vertical foreclosure arrangements in antitrust:

> But even if invisible to many consumers, the inescapable reality is that these machines [Apple's iPod, iPhone, and iPad]

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65. THE MASTER SWITCH, *supra* note 1, at 314.

66. *Id.* at 313-14 .

67. *See* Tehseen Baweja, *With 663 Million Registered Users, Skype Earned $860 Million Last Year*, TECHIE BUZZ (Mar. 7, 2011), http://techie-buzz.com/tech-news/with-663-million-registered-users-skype-earned-860-million-last-year.html.

68. Stuart Dredge, *Steve Jobs Resisted Third-Party Apps on iPhone, Biography Reveals*, GUARDIAN (Oct. 24, 2011), http://www.guardian.co.uk/technology/appsblog/2011/oct/24/steve-jobs-apps-iphone.

69. For similar reasons, Apple makes Google Maps apps available in its online store, despite the fact that Maps competes with Apple's iOS 6 maps application. The ongoing relationship between Apple iOS and Google Maps is illuminating. Google Maps was available as a third-party app for years on iPhones but Apple removed the Maps app in fall 2012 with the release of iOS 6. Michael Grothaus, *Google sources think maps app might struggle for Apple approval*, GUARDIAN (Nov. 5, 2012), http://www.guardian.co.uk/technology/2012/nov/05/google-maps-doubt-iphone. Months later, partly in response to consumer outrage, Apple permitted Maps as an iOS app. Joanna Stern, *Google Maps App for iPhone Released With Turn-by-Turn Navigation, Transit Directions and Street View*, ABC NEWS (Dec. 13, 2012), http://abcnews.go.com/Technology/google-maps-app-iphone-released-turn-turn-navigation/story?id=17952434.

> are closed in a way the personal computer never was . . . . [A]ll innovation and functionality are ultimately subject to Apple's veto, making these devices antithetical to the Apple II and all the hardware development it inspired.[70]

In common technology parlance these are the so-called walled gardens, which refer to firms inhibiting interoperability with downstream products. Apple's iPhones, for instance, are sold with free iCloud storage and Siri voice recognition features, to the exclusion of rival offerings. Likewise, Google Android smartphones use Google's search engine and other Google services and apps by default. While section 3 of the Clayton Act could be interpreted to prohibit these sorts of tying arrangements,[71] antitrust scholar Herbert Hovenkamp notes that "most economists and others interested in antitrust law believe [tying] is rarely competitively harmful."[72] For one, tying may reduce the costs of information and oversearching,[73] and that seems to be the primary competitive advantage of walled gardens. Much of Apple devices' popularity seems to arise from these informational benefits.[74] The Apple brand connotes a certain quality to consumers—the product will be sleek, intuitive to use, and relatively free of software vulnerabilities to viruses and trojans. Apple products have gained this beneficial reputation precisely because it has a closed system that ties apps to Apple devices.[75] Much of the iPhone's success is because it meshes so well with the downstream tied services. Competitors in the mobile operating system and handset markets are not as popular, in part, because they have not leveraged the competitive benefits of vertically closed systems.[76]

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70. *See* THE MASTER SWITCH, *supra* note 1, at 291-93.

71. *See* 15 U.S.C. § 14 (2006).

72. HERBERT HOVENKAMP, CLAYTON ACT (1914): AN ENTRY FROM MACMILLIAN REFERENCE USA'S MAJOR ACTS OF CONGRESS 123, 125 (Brian K. Landsberg ed., 2003).

73. *See* Roy W. Kenney & Benjamin Klein, *The Economics of Block Booking*, 26 J.L. & ECON. 497, 501 (1983).

74. These informational attributes parallel what Paul Joskow calls intangible assets. Paul L. Joskow, *Vertical Integration, in* HANDBOOK OF NEW INSTITUTIONAL ECONOMICS 2005, at 328, 349-50 (Claude Ménard & Mary M. Shirley eds., 2005).

75. Matt Burns, *The Decline of Android Foretells the Rise of a Total Apple Monopoly*, TECH CRUNCH (Apr. 26, 2012), http://techcrunch.com/2012/04/26/apple-will-one-day-rule-the-world ("Apple's success is made possible by keeping things simple . . . . Steve Jobs and Co. correctly identified that the average consumer doesn't care about specs but rather capabilities.").

76. *See id.* (arguing that "[t]he vast fragmentation in the hardware [handset market] causes apps to be very inconsistent in quality."); *see* Christina Bonnington, *Why iOS Apps Look Better than Android Apps*, GIZMODO (Apr. 30, 2012), http://gizmodo.com/5906328/why-ios-apps-look-better-than-android-apps (arguing that "[w]hen coding for iOS, developers deal with a very limited number of screen resolutions and hardware profiles. But when coding for Android, developers have to resolve a virtually limitless set of device parameters."). Competitors are catching on, however. Firms in the e-reader and tablet

Firms do have incentives to allow competing services on their systems. Whether a firm will allow competing services requires a careful balancing. The fact that consumers flock to closed devices like the iPhone, iPad, and Amazon Kindle, knowing full well these devices are tied to upstream apps and services, is a powerful indictment of Wu's position that proprietary systems harm consumers. By all indications, consumer welfare is enhanced by these firms reducing costly searches and other informational impediments through vertical arrangements. Dissolving a firm that possesses both information creation and hardware abilities—as the Separations Principle mandates[77]—would eliminate these types of pro-consumer and pro-competitive tying arrangements.

B. Efficiency Benefits

Now we consider vertical arrangements between information creators, who produce audio and visual content, and information distributors, like wireline and wireless networks (buckets one and two in Wu's scheme). These sorts of mergers are rarer when compared to combinations involving information creators and hardware makers, but the efficiencies provided by these mergers are also understood. Today it is accepted that vertical integrations involving networks and content are often motivated by firms seeking substantial efficiencies.[78] In contrast to the antitrust doctrines that prevailed in the middle of the 20th century—doctrines Herbert Hovenkamp characterized as "unreasonably hostile" to vertical mergers[79]—antitrust officials today recognize that vertical integration of the factors of production often result in pro-competitive efficiencies.[80] In many instances, firms will acquire upstream or downstream complements because merging allows the firm to avoid the costs of negotiating with upstream and downstream firms for access to complementary goods.

Firms achieve efficiencies by integrating vertically since nonintegrated firms are frequently subject to opportunistic behavior from upstream or downstream companies;[81] this is particularly true in industries with rapid technology change.[82] Opportunism and hold-up occur because

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markets have taken notice, and we will likely see more of these vertical tying agreements in the future.

77. *See* THE MASTER SWITCH, *supra* note 1, at 304.

78. Farrell & Weiser, *supra* note 61, at 97.

79. Herbert Hovenkamp, *The Law of Vertical Integration and the Business Firm: 1880–1960*, 95 IOWA L. REV. 863, 876 (2010).

80. *See* Lafontaine & Slade, *supra* note 51 *passim*.

81. Paul L. Joskow, *Vertical Integration*, *in* 1 ABA SECTION OF ANTITRUST LAW, ISSUES IN COMPETITION LAW AND POLICY 273, 287 (2008); Oliver Williamson, *Transaction Costs Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233, 245-46 (1979).

82. Robert W. Crandall, *The Remedy for the "Bottleneck Monopoly" in Telecom: Isolate It, Share It, or Ignore It?*, 72 U. CHI. L. REV. 3, 23 (2005).

all bilateral contracts are incomplete and can result in ex post bargaining and contractual performance problems.[83] Economist Ronald H. Coase discussed this problem as it relates to manufacturers: if a car manufacturer makes large capital investments in a manufacturing plant, it may be subject to opportunism by a specialized distributor who knows the manufacturer risks having new but unused equipment if the distributor does not reach an agreement with it.[84] Even the mere threat of hold-up by the supplier can coerce a manufacturing firm into lowering its price to average variable cost, and this risk often harms consumers since the firm "would have to cover this cost, by passing it on to its purchaser as part of the price of inputs."[85]

These hold-up threats are common in the information economy because firms typically own specialized assets, like television programming, advertisement deals, and programming bundles that are prone to hold-up.[86] To avoid these contracting issues, firms explore alternative governance arrangements—like backwards merger—to prevent ex post rent extraction.[87] Hold-up problems have made the video-distribution industry particularly volatile and competitive in recent years. In addition to high-profile disputes like DirecTV-Viacom, where 20 million satellite subscribers lost twenty-six Viacom-owned channels for over a week when the two companies could not agree,[88] Netflix lost its access to content from the Starz network after refusing to feature tiered pricing for this content.[89] In addition, other studios and content providers have raised prices for Netflix to access and use their content as a response to Netflix's success.[90] Price increases from its content suppliers have induced Netflix to

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83. Joskow, *supra* note 81 at 285; Benjamin Klein et al., *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J.L. & ECON. 297, 297-98 (1978).

84. See Alan J. Meese, *Reframing Antitrust In Light of Scientific Revolution: Accounting for Transaction Costs in Rule of Reason Analysis*, 62 HASTINGS L.J. 457, 497 (2010).

85. *Id.*

86. *See* Farrell & Weiser, *supra* note 61, at 98; Klein et al., *supra* note 83, at 298-99.

87. *See* Joskow, *supra* note 81 at 274, 280, 287. Integration may also prevent problems with promotional incentives that contracting parties may remedy with resale price maintenance. Benjamin Klein, *Competitive Resale Price Maintenance in the Absence of Free Riding*, 76 ANTITRUST L.J. 431, 437, 456 (2009).

88. *Viacom, DirecTV Reach Deal, End Blackout*, CHI. TRIB. (July 20, 2012), http://articles.chicagotribune.com/2012-07-20/business/chi-viacom-directv-reach-deal-end-blackout-20120720_1_derek-chang-directv-dispute-directv-customers.

89. Tim Carmody, *How the Starz-Netflix Divorce Will Remake Video*, WIRED (Sept. 2, 2011, 3:13 PM), http://www.wired.com/epicenter/2011/09/starz-netflix-divorce/all/1.

90. *See* Brian Stelter, *Once Film-Focused, Netflix Transitions to TV Shows*, N.Y. TIMES (Feb. 27, 2012), http://www.nytimes.com/2012/02/28/business/media/once-film-focused-netflix-shifts-to-tv-shows.html ("The pivot to TV reruns was necessitated in part by the tightening of the movie spigot by major movie studios. Fearing that Netflix might grow too popular or powerful, the studios 'have decided to dramatically raise prices' for films and shows.").

enter the content production market, and it is now being said that Netflix resembles a nascent version of premium-content provider HBO[91] (a development that would be, as one commentator said, "Hollywood's worst nightmare"[92]).

Additionally, Hulu, which mostly features streaming of network television shows, is also now offering several original scripted series. Indicative of its growing competitive threat to the traditional video distributors upon which Hulu depends for content, Hulu recently sat down with advertisers to pitch programming—a ritual typically reserved only for cable channels and network broadcasters.[93] Netflix's and Hulu's production of their own content means they can now bargain harder with studios that seek to raise their prices to distributors.[94] In addition to the actions by Netflix and Hulu, Amazon is now creating original book (Amazon Publishing)[95] and video content (Amazon Studios).[96] By backwards integrating and creating their own content, these firms are preventing the studios from holding them hostage, and they can negotiate lower prices in licensing deals which benefits consumers. These sorts of business models are exactly what antitrust scholarship predicts when firms face hold-up problems from suppliers of an input. "To avoid this transaction cost, the [firm] might integrate backwards, taking on the manufacturing process itself, thereby avoiding a transaction, eliminating the prospect of opportunism, and minimizing the cost of obtaining the input."[97]

Under a separations regime in which vertical integration across platforms is prohibited, however, distributors would be prevented from entering the content market. Vertical divestiture would prevent practices that are present in competitive markets like these, and would prevent the resulting price competition. Market developments like those discussed are why current antitrust doctrine "still generally presumes that vertical agreements, vertical extension, and vertical mergers are unobjectionable unless a fact-intensive investigation shows otherwise."[98] A per se Separations Principle would adversely affect these welfare-increasing

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91. *See* Yinka Adegoke & Lisa Richwine, *Netflix in Talks for Cable Partnership*, REUTERS (Mar. 6, 2012, 6:03 PM), http://www.reuters.com/article/2012/03/06/us-netflix-cable-idUSTRE8251U520120306; *see also* Stelter, *supra* note 90.

92. Shira Ovide, *Netflix: Hollywood's Worst Nightmare*, WALL ST. J. (Mar. 16, 2011, 9:03 AM), http://blogs.wsj.com/deals/2011/03/16/netflix-hollywoods-worst-nightmare.

93. Amy Chozick & Brian Stelter, *An Online TV Site Grows Up*, N.Y. TIMES (Apr. 16, 2012), http://www.nytimes.com/2012/04/17/business/media/hulu-the-online-tv-site-adds-original-programming.html.

94. *See* Ovide, *supra* note 92.

95. *Amazon Publishing*, AMAZON, http://www.amazon.com/gp/feature.html?docId=1000664761 (last visited Nov. 17, 2012).

96. *Amazon Studios*, AMAZON, http://studios.amazon.com (last visited Nov. 17, 2012).

97. Alan J. Meese, *Reframing Antitrust In Light of Scientific Revolution*, 62 HASTINGS L.J. 457, 497 (2010).

98. Joseph A. Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies*, 17 HARV. J.L. & TECH. 86, 87 (2003).

transactions since, as Robert Bork has noted, "[f]ragmentation for its own sake confers no clear gain, and it makes economic processes more costly."[99]

The overwhelming conclusion from economists and scholars who have looked at vertical relationships is that the vertical relationships Wu condemns tend to be benign or beneficial to consumers.[100] Bork notes "[v]ertical mergers are means of creating efficiency, not of injuring competition."[101] Francine Lafontaine and Margaret Slade's 2007 survey of dozens of economics papers that examine the welfare effects of vertical integration makes a compelling case for this proposition.[102] The authors conclude that "vertical-merger policy should be de minim[is], if it exists at all. After all, both firms and consumers can benefit when firms realize efficiencies."[103] The empirical evidence shows that:

> Under most circumstances, profit maximizing vertical-integration decisions are efficient, not just from the firms' but also from the consumers' points of view. Although there are isolated studies that contradict this claim, the vast majority support it. Moreover, even in industries that are highly concentrated so that horizontal considerations assume substantial importance, the net effect of vertical integration appears to be positive in many instances. We therefore conclude that, faced with a vertical arrangement, the burden of evidence should be placed on competition authorities to demonstrate that that arrangement is harmful before the practice is attacked. Furthermore, we have found clear evidence that restrictions on vertical integration that are imposed . . . are usually detrimental to consumers. Given the weight of the evidence, it behooves government agencies to reconsider the validity of such restrictions.[104]

This literature survey is especially relevant here since it reviews several studies examining cable TV and film distribution integrations—the types of

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99. BORK, *supra* note 32, at 55..

100. *See* Bruce M. Owen, *Antitrust and Vertical Integration in "New Economy" Industries*, 38 REV. INDUST. ORG. 363, 381. ("Empirical evidence that vertical integration or vertical restraints are harmful is weak, compared to evidence that vertical integration is beneficial—again, even in cases where market power appears to be present. Thus, it is reasonable to conclude that prophylactic regulation is not necessary, and may well reduce welfare by deterring efficient investments. Sound policy is to wait for ex post evidence of harm to justify interventions in specific cases. The conditions that would trigger such intervention should be as concrete and specific as possible, in order to reduce perceived investment risk.").

101. BORK, *supra* note 32, at 226.

102. *See* Lafontaine & Slade, *supra* note 51.

103. *Id.* at 662.

104. *Id.* at 680.

mergers Wu's policy proposals would affect. In most studies of these integrations, the effects on consumers were either positive or ambiguous.[105] Further, the authors found that when authorities do force vertical separations, prices typically rise and consumers are harmed.[106]

In every vertical merger or contractual agreement, there are two countervailing factors: (1) an increase in foreclosure; and (2) an increase in efficiency or other cost reductions.[107] These two factors typically result in ambiguous or positive effects on consumers, which is why antitrust authorities are so hesitant to enforce vertical separations. Since there is substantial evidence of cost reductions in the information economy, a per se separations rule would be premature and probably welfare-reducing without compelling evidence of pervasive vertical foreclosure effects and minimal benefits to consumers[108]—evidence Wu never proffers.

C. *Competition in the Information Economy: Case Studies*

The case studies that follow show that markets tend to self-correct quickly when vertical integration or vertical mergers fail to produce the value to either the firm or consumers that was originally imagined.

1. AOL-Time Warner

Just a decade ago, AOL was perceived as the primary threat to online openness and was thought to possess an unassailable position of digital dominance. For a time, it was easy to see why some were worried. Thirty million subscribers were willing to pay $20 per month to get a guided tour of AOL's walled-garden version of the Internet.[109] Then, AOL and media titan Time Warner announced a historic megamerger that had some critics, such as Norman Solomon and Robert Scheer, predicting the rise of "new totalitarianisms" and a corporate "Big Brother," respectively.[110]

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105. *Id.* at 674 tbl.16.

106. *Id.* at 663.

107. *Id.* at 673.

108 . One of the benefits of vertical integration in an industry with rapidly changing technology lies in the coordination of investment and production decisions. At the present time, when the technology for delivering telecom services is undergoing a sea change and the very nature of those services is changing dramatically, any decision to mandate a move away from vertical integration would be very risky. Crandall, *supra* note 82, at 23. *See also* Owen, *supra* note 100, at 381, (arguing that "there is no basis for an a priori assumption that vertical integration is welfare-reducing," which makes "prophylactic regulation . . . not necessary," and that policymakers should "wait for ex post evidence of harm to justify interventions in specific cases").

109. Roy Mark, *Worldwide AOL Membership Cracks 30 Million Mark*, INTERNET NEWS (June 25, 2001), http://www.internetnews.com/isp-news/article.php/790471/Worldwide+AOL+Membership+Cracks+30+Million+Mark.htm.

110. Norman Solomon, *AOL Time Warner: Calling the Faithful to Their Knees*, FAIR (Jan. 13, 2000), http://www.fair.org/media-beat/000113.html; Robert Scheer, *Confessions of*

Fearing the worst, the FTC and FCC placed several conditions on the merger. These included "open access" provisions that forced Time Warner to offer service from the second-largest competing Internet service provider ("ISP") at the time—EarthLink—before it made AOL's service available across its largest cable divisions.[111] Another FCC-imposed provision mandated interoperability of instant messaging ("IM") systems based on the fear that AOL was poised to monopolize that emerging technology.[112]

Despite all the handwringing, the merger went off the rails and AOL's online dominance evaporated quickly.[113] By April 2002, just two years after the deal was struck, AOL-Time Warner had reported a staggering $54 billion loss.[114] By January 2003, its losses had grown to $99 billion,[115] and that same year, Time Warner decided to drop AOL from its name altogether.[116] In early 2008, Time Warner decided to shed AOL's dial-up service,[117] and in 2009, it spun off AOL entirely.[118] Further deconsolidation followed for Time Warner, which spun off its cable TV unit and various other properties. The concern about AOL's potential to monopolize IM proved particularly unfounded.[119] Consumers today have access to multiple IM services that can be integrated into a single

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an E-Columnist, ONLINE JOURNALISM REV. (Jan. 14, 2000), http://www.ojr.org/ojr/workplace/1017966109.php.

111. *FTC Approves AOL/Time Warner Merger with Conditions*, FED. TRADE COMM'N (Dec. 14, 2000), http://www.ftc.gov/opa/2000/12/aol.shtm.

112. *See* App'ns for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee, *Memorandum Opinion & Order*, FCC 01-12, para. 191 (2001), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-01-12A1.pdf.

113. Adam Thierer, *A Brief History of Media Merger Hysteria: From AOL-Time Warner to Comcast-NBC*, 16 PROGRESS ON POINT 2 (2009) [hereinafter *Merger Hysteria*], http://www.pff.org/issues-pubs/pops/2009/pop16.25-comcast-NBC-merger-madness.pdf.

114. Frank Pellegrini, *What AOL Time Warner's $54 Billion Loss Means*, TIME (Apr. 25, 2002), http://www.time.com/time/business/article/0,8599,233436,00.html.

115. Jim Hu, *AOL Loses Ted Turner and $99 billion*, CNET NEWS (Jan. 30, 2004, 1:37 PM), http://news.cnet.com/AOL-loses-Ted-Turner-and-99-billion/2100-1023_3-982648.html. In a 2006 interview with the *Wall Street Journal*, Time Warner president Jeffrey Bewkes famously declared the death of merger "synergy" and went so far as to tell shareholders the synergy message is "bull—." Matthew Karnitschnig, *After Years of Pushing Synergy, Time Warner Inc. Says Enough*, WALL ST. J. (June 2, 2006), http://online.wsj.com/article/SB114921801650969574.html.

116. Jim Hu, *AOL Time Warner Drops AOL from Name*, CNET NEWS (Sept. 18, 2003, 10:58 AM), http://news.cnet.com/2100-1025_3-5078688.html.

117. Geraldine Fabrikant, *Time Warner Plans to Split off AOL's Dial-up Service*, N.Y. TIMES (Feb. 7, 2008), http://www.nytimes.com/2008/02/07/business/07warner.html.

118. Press Release, Time Warner, Time Warner Inc. Completes Spin-off of AOL Inc. (Dec. 10, 2009), *available* at http://ir.timewarner.com/phoenix.zhtml?c=70972&p=irol-newsArticle&ID=1364440&highlight=).

119 . *See, e.g.*, Joe Salkowski, *AOL May Also Have Monopoly*, CHI. TRIB. (June 19, 2000), http://articles.chicagotribune.com/2000-06-19/business/0006190010_1_instant-messaging-aol-instant-messenger-tribal-voice.

interface.[120] Looking back at the deal in 2009, *Fortune* magazine senior editor Allan Sloan called it the "turkey of the decade."[121]

2. News Corp.-DirecTV

Similarly, News Corp.'s 2003 acquisition of direct broadcast satellite provider DirecTV led to hyperbolic predictions of media monopoly.[122] Jeff Chester of the Center for Digital Democracy predicted that Rupert Murdoch would use this "Digital Death Star" to "force his programming on cable companies" and a parade of other horrible things.[123] Despite the rhetoric, Murdoch abandoned his plans three years later and in December 2006, News Corp. decided to divest DirecTV to Liberty Media Corporation.[124] As with the unwinding of the AOL-Time Warner deal, little mention was made in the reporting about the divestiture of DirecTV of the previous round of pessimistic predictions or whether there had ever been any merit to the concerns about vertical integration raised by the critics.[125]

3. Smartphone Sector

A final case study involves the mobile phone handset and operating system ("OS") marketplace, which has undergone continuous change over the past 15 years and is still evolving rapidly. When cellular telephone service first started taking off in the mid-1990s, handsets and mobile OSs were essentially one in the same, and Nokia and Motorola dominated the sector with fairly rudimentary devices. The era of personal digital assistants

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120. *See* Whitson Gordon, *The Best Instant Messaging Application for Windows*, LIFEHACKER (May 17, 2011), http://lifehacker.com/5802706/the-best-instant-messaging-application-for-windows (listing applications that support multiple instant messaging networks).

121. Allan Sloan, *Deals: The Financial World's Turkeys of the Year*, WASH. POST (Nov. 17, 2009), http://www.washingtonpost.com/wp-dyn/content/article/2009/11/16/AR2009111603775.html.

122. Then-FCC Commissioner Jonathan Adelstein worried that the deal would "result in unprecedented control over local and national media properties in one global media empire. Its shockwaves will undoubtedly recast our entire media landscape." He continued, "With this unprecedented combination, News Corp. could be in a position to raise programming prices for consumers, harm competition in video programming and distribution markets nationwide, and decrease the diversity of media voices." Gen. Motors Corp. & Hughes Elecs. Corp., Transferors, & News Corp. Ltd., Transferee, *Memorandum Opinion and Order*, FCC 03-330 (2004) (Dissenting Statement of Comm'r Jonathan S. Adelstein), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-330A1.pdf.

123. Jeff Chester, *Rupert Murdoch's Digital Death Star*, ALTERNET (May 19, 2003), http://www.alternet.org/story/15949.

124. Press Release, News Corp., News Corporation and Liberty Media Corporation Sign Share Exchange Agreement, (Dec. 22, 2006), *available at* http://www.newscorp.com/news/news_322.html.

125 . *Merger Hysteria*, *supra* note 113, at 2.

(“PDAs”) dawned during this period, but featured a series of overhyped devices, such as Apple’s “Newton,” that failed to catch on. In the early 2000s, however, a host of new players and devices entered the market, many of which are still major players today, including LG, Sony, Samsung, Siemens, and HTC. Importantly, the sector began dividing into handsets versus OS. Leading mobile OS makers have included Microsoft, Palm, Symbian, BlackBerry (RIM), Apple, and Android (Google).[126]

The sector continues to undergo constant change. Palm smartphones were wildly popular for a brief time and brought many innovations to the marketplace.[127] Palm underwent many ownership and management changes, however, and rapidly faded from the scene.[128] After buying Palm in 2010, HP announced that it would use Palm’s WebOS platform in a variety of new products.[129] That effort failed, and HP then announced that it would transition WebOS to an open-source software product.[130] Similarly, RIM’s BlackBerry was the dominant smartphone device for a time, but it has recently been decimated.[131] BlackBerry’s rollercoaster ride has left it “trying to avoid the hall of fallen giants,” in the words of an early 2012 *New York Times* headline.[132] Although the company once accounted for more than half of the American smartphone market, today its share has slipped to ten percent.[133] Microsoft also had a huge lead in licensing its Windows Mobile OS to high-end smartphone handset makers until Apple and Android disrupted its business.[134]

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126. *See, e.g.*, Henry Blodget, *This Trend is Very Worrisome for Apple*, BUS. INSIDER (Nov. 16, 2012), http://www.businessinsider.com/mobile-market-share-2012-11.

127. Sam Grobart & Ian Austen, *The BlackBerry, Trying to Avoid the Hall of Fallen Giants*, N.Y. TIMES (Jan. 28, 2012), http://www.nytimes.com/2012/01/29/business/blackberry-aiming-to-avoid-the-hall-of-fallen-giants.html (“Palm Pilots were dazzling when they first appeared: all of your contacts, calendars and notes in one slim, pocket-size device. A touch screen, which required a stylus, made navigation easy. And you could add software, bought through an online store. Want a Zagat guide to go along with your personal data? No problem. In later years, Palm even added telephone features, creating a compelling, all-in-one gadget. Despite boardroom dramas that affected the company’s name and its ownership, Palm’s reputation as a source of innovative hardware and software endured until Jan. 9, 2007. Why that date? That’s when Apple introduced the iPhone.”).

128. *See* Jason Perlow, *Love Stinks: The Worst Mergers in the History of the Technology Industry*, ZDNET (Feb. 11, 2012, 5:46 PM), http://www.zdnet.com/photos/love-stinks-the-worst-mergers-in-the-history-of-the-technology-industry/6344256.

129. Press Release, HP, HP to Acquire Palm for $1.2 Billion (Apr. 28, 2010), *available at* http://www.hp.com/hpinfo/newsroom/press/2010/100428xa.html.

130. Ryan Paul, *WebOS Governance Model Announced, More Open Than Android*, ARS TECHNICA (Feb. 15, 2012, 5:20 PM), http://arstechnica.com/business/news/2012/02/webos-governance-model-announced-more-open-than-android.ars.

131. Holman W. Jenkins, Jr., *Game Over for BlackBerry?*, WALL ST. J. (Jan. 6, 2012), http://online.wsj.com/article/SB10001424052970203513604577144614178603068.html.

132. Grobart & Austen, *supra* note 127.

133. *Id.*

134. Adam Thierer, *Bye Bye BlackBerry: How Long Will Apple Last?*, FORBES (Apr. 1, 2012, 12:49 PM), http://www.forbes.com/sites/adamthierer/2012/04/01/bye-bye-blackberry-how-long-will-apple-last.

Famously, many commentators denigrated Apple's entry into the smartphone business since many industry analysts believed the market was mature.[135] Just a few years later, Nokia's profits and market share have plummeted,[136] and Google purchased the struggling Motorola.[137] Meanwhile, Palm is dead and Microsoft is struggling to win back market share lost to Apple and Google.[138]

"The violence with which new platforms have displaced incumbent mobile vendor fortunes continues to surprise," says wireless industry analyst Horace Dediu.[139] He notes that Nokia's Symbian platform went from 47 percent share to 16 percent in three years, Microsoft's phone platforms went from 12 percent to 1 percent, RIM's went from 17 percent to 12 percent, and other platforms went from 21 percent to zero.[140] Meanwhile, over a two-year period, Google's Android OS went from zero to 48 percent and Apple's iOS went from 2 percent to 19 percent.[141] Of course, in a marketplace this dynamic, Apple and Google could wake up in

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135. For example, in December 2006, Palm CEO Ed Colligan summarily dismissed the idea that a traditional personal computing company could compete in the smartphone business. "We've learned and struggled for a few years here figuring out how to make a decent phone," he said. "PC guys are not going to just figure this out. They're not going to just walk in." John Paczkowski, *Apple: How Do You Say 'Eat My Dust' in Finnish?*, ALL THINGS D (Nov. 11, 2009, 4:30 AM), http://allthingsd.com/20091111/nokia-apple. In January 2007, Microsoft CEO Steve Ballmer laughed off the prospect of an expensive smartphone without a keyboard having a chance in the marketplace as follows: "Five hundred dollars? Fully subsidized? With a plan? I said that's the most expensive phone in the world and it doesn't appeal to business customers because it doesn't have a keyboard, which makes it not a very good e-mail machine." *Id.* In March 2007, computing industry pundit John C. Dvorak argued that "Apple should pull the plug on the iPhone" since "there is no likelihood that Apple can be successful in a business this competitive." John C. Dvorak, *Apple Should Pull the Plug on the iPhone*, WALL ST. J. (Mar. 28, 2007, 7:18 PM), http://www.marketwatch.com/story/apple-should-pull-the-plug-on-the-iphone. Dvorak believed the mobile handset business was already locked up by the era's major players. "This is not an emerging business. In fact it's gone so far that it's in the process of consolidation with probably two players dominating everything, Nokia Corp. and Motorola Inc." *Id.*

136. Stan Schroeder, *Nokia's Profits Fall, Its Smartphone Business Weakens*, MASHABLE (Jan. 27, 2011), http://mashable.com/2011/01/27/nokias-profits-fall (noting that Nokia reported a 21% year-over-year decrease in net profit, dropping from $1.3 billion in 2010 to $1.02 billion in the last quarter); Anton Troianovski & Arild Moen, *Nokia Crisis Deepens, Shares Plunge*, WALL ST. J. (Apr. 11, 2012, 7:36 PM), http://online.wsj.com/article/SB10001424052702304356604577337452563544904.html (noting that Nokia's market value stands at $16 billion, down from $90 billion five years ago, and that its depository share value has dropped 16% to a fifteen year low of $4.24).

137. Thierer, *supra* note 134.

138. *Id.*

139. Horace Dediu, *The Fate of Mobile Phone Brands*, ASYMCO (Aug. 2, 2011, 4:23 PM), http://www.asymco.com/2011/08/08/the-fate-of-mobile-phone-brands.

140. *Id.*

141. *Id.*

a few years and find that they too have been displaced from their current perches atop the smartphone hill.[142]

Given the importance of mobile broadband in consumer markets and the vicious competition in this sector and others, it strains credulity to say that breakup of tech companies via the Separations Principle is needed to ensure competition and free speech. Interestingly, this dynamic change has not kept Wu from complaining about the nature of competition in the smartphone sector. He has bemoaned the state of competition in this sector and referred to the practices of carriers as "outrageous and perhaps illegal" even as market influence has rapidly shifted away from carriers and toward handset makers and OS developers.[143]

Because of the efficiency justifications described above, and the changing nature of these markets, Wu's proposed per se antitrust enforcement is unsupported. The preceding case studies provide compelling evidence that even the mightiest "information empires" can crumble and fall—and in very short order. Despite what Wu claims, there is little reason to believe "this time is different" and that the information economy is, for once, immune from dynamic, disruptive changes. Escape from any platform is reasonably easy and innovation continues at a healthy clip. If future technology platform competition is dynamic like the past twenty years has been, preemptive vertical separations—like those proposed by Wu—would undermine the ability of firms to aggressively innovate and attempt to dominate the market.

D. Dynamic, Schumpeterian Change vs. Static Equilibrium Analysis

The modern information economy is the living embodiment of what Austrian-born economist Joseph Schumpeter famously described as the "perennial gale of creative destruction."[144] Economist Jerry Ellig has explained that, in the Schumpeterian paradigm, "[f]irms compete not on the margins of price and output, but by offering new products, new technologies, new sources of supply, and new forms of organization. Possession of market power is consistent with vigorous competition, and many seemingly anticompetitive practices actually facilitate innovation."[145]

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142. Thierer, *supra* note 134.

143. Tim Wu, *Wireless Net Neutrality: Cellular Carterfone and Consumer Choice in Mobile Broadband* 1 (New Amer. Found., Working Paper No. 17, 2007), *available at* http://www.newamerica.net/publications/policy/wireless_net_neutrality; Adam Thierer, *CTIA's Refutation of Tim Wu's 2007 Wireless Net Neutrality Paper*, TECH. LIBERATION FRONT (Feb. 22, 2010), http://techliberation.com/2010/02/22/ctias-refutation-of-tim-wus-2007-wireless-net-neutrality-paper.

144. JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY 84 (3d ed. 1962).

145. DYNAMIC COMPETITION AND PUBLIC POLICY: TECHNOLOGY, INNOVATION, AND ANTITRUST ISSUES 6 (Jerry Ellig ed., 2001).

The Schumpeterian paradigm and other dynamic competition models best capture the nature of competition and innovation in today's digital marketplace. "Innovative risk-takers are constantly shaking things up and displacing yesterday's lumbering, lethargic giants."[146] In markets built largely upon binary code, the pace and nature of change has become hyper-Schumpeterian: unrelenting and unpredictable. New disruptions flow from many unexpected quarters as innovators launch groundbreaking products and services while devising new ways to construct cheaper and more efficient versions of existing technologies. Change has been constant, uneven, and highly disruptive but it has also led to the progress and innovation seen flowing through the information sector over the past two decades.

There is no static end-state, "perfect competition," or "market equilibrium" in today's information-technology marketplace.[147] Change and innovation are chaotic, nonlinear, and paradigm-shattering.[148] Schumpeter notes how,

> in capitalist reality as distinguished from its textbook picture, it is not [perfect] competition which counts but the competition from the new commodity, the new technology, the new source of supply, the new type of organization . . . competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives. This kind of competition is as much more effective than the other . . . [it] acts not only when in being but also when it is merely an ever-present threat. It disciplines before it attacks.[149]

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146. Adam Thierer, *Of "Tech Titans" and Schumpeter's Vision*, FORBES (Aug. 22, 2011, 12:31 PM), http://www.forbes.com/sites/adamthierer/2011/08/22/of-tech-titans-and-schumpeters-vision.

147. *See* Jerry Ellig & Daniel Lin, *A Taxonomy of Dynamic Competition Theories*, *in* DYNAMIC COMPETITION AND PUBLIC POLICY: TECHNOLOGY, INNOVATION, AND ANTITRUST ISSUES, *supra* note 145, at 22 (stating that "[e]volutionary economics functions in 'real time'" and that "[t]here is no discernible end point."); GERALD P. O'DRISCOLL JR. ET AL., THE ECONOMICS OF TIME AND IGNORANCE 97, 100 (1985) (noting that "[c]ompetition in fact is a continuous process and not a set of conditions . . . [and] is a dynamic process, a process in time.").

148. *See* Ellig & Lin, *supra* note 147, at 18-19 (noting that "Schumpeterian competition is primarily about active, risk-taking decision makers who seek to change their parameters . . . [i]t is about continually destroying the old economic structure *from within* and replacing it with a new one.").

149. SCHUMPETER, *supra* note 144, at 84-85.

Antitrust scholars J. Gregory Sidak and David J. Teece explain why this dynamic model better describes real-world marketplace competition:

> The adjective "dynamic" is a shorthand descriptor for a variety of rigorously competitive activities such as significant product differentiation and rapid response to change, whether from innovation or simply from new market opportunities ensuing from changes in taste or other forces of disequilibrium. Dynamic competition is, in fact, more intuitive and much closer to today's everyday view of competition than is the stylized notion of static competition routinely depicted in textbooks.[150]

While static or "perfect competition" models assume away innovation and are preoccupied with competitive equilibrium, dynamic models revolve around disequilibrium and assume the only constant is change.

What is most important to economic progress, therefore, is the ongoing process of constant experimentation and spontaneous discovery that allows new business models and organizational structures to emerge in response to market signals. Sidak and Teece note that "[t]he basic framework employed in discussions about innovation, technology policy, and competition policy is often remarkably naïve, highly incomplete, and burdened by a myopic focus on market structure as the key determinant of innovation."[151] Additionally, Sidak and Teece explain:

> Market share may be altogether irrelevant in some cases because markets may exist in which innovation is so characteristic and sustained that firms compete not merely for market share, but for markets as a whole A firm's monopoly today may say little about the firm's prospects one, two, or five years in the future.[152]

The particular danger of the static equilibrium mindset is that the same new innovators and innovations that obtain success and scale rapidly as a result of this process are sometimes thought to possess problematic market power. Accusations of monopoly quickly follow, as they do in Wu's work. Coase notes that

> if an economist finds something—a business practice of one sort or another—that he does not understand, he looks for a monopoly explanation. And as in this field we are very

150. J. Gregory Sidak & David J. Teece, *Dynamic Competition in Antitrust Law*, 5 J. COMPETITION L. & ECON. 581, 603 (2009).

151. *Id.* at 589.

152. *Id.* at 615.

> ignorant, the number of unexplainable practices tends to be rather large, and the reliance on a monopoly explanation, frequent.[153]

This is why a short-term fixation on market share and market power is so problematic.

The static equilibrium model is myopically fixated on short-term market share and price competition while ignoring "competition for innovation," which is what matters most in the more dynamic Schumpeterian model. As Robert Kramer of the DOJ's Antitrust Division noted in a 1999 speech, "[a]s important as price competition is to us, a second major and possibly even greater concern is maintaining competition for innovation."[154] Schumpeter also explained that uneven entrepreneurial gains must be tolerated if innovation is to occur.[155] Economies need innovators to take risks because progress is born from it.[156] Penalizing the risk-takers by trying to level the playing field through rash regulation or antitrust interventions will often sap the entrepreneurial spirit from the marketplace, limit technological innovation, and diminish the possibility of progress and prosperity over the long-haul.[157] Wu's analysis gives little consideration to the possibility that obtaining market power will not adversely impact innovation within the tech sector. Geoffrey Manne and Joshua Wright explain that "this is a problem if the innovators have forsaken monopoly profits in competition for the field in expectation of future reward, only to find that their reward is made unavailable at the moment they begin to enjoy it."[158] They continue,

> A purely static, forward-looking assessment will miss the consumer welfare benefits previously enjoyed by consumers of the innovative product and curtail the market because of a present or future expectation that consumers will be harmed.

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153. Ronald H. Coase, *Industrial Organization: A Proposal for Research*, *in* ECONOMIC RESEARCH: RETROSPECT AND PROSPECT VOL 3: POLICY ISSUES AND RESEARCH OPPORTUNITIES IN INDUSTRIAL ORGANIZATION 59-73, 67 (Victor R. Fuchs ed., 1972).

154. Robert Kramer, Litig. II Section Chief, Antitrust Div., U.S. Dep't of Justice, Antitrust Considerations in International Defense Mergers, Address before the American Institute of Aeronautics and Astronautics (May 4, 1999), *available at* http://www.usdoj.gov/atr/public/speeches/2649.htm.

155. Maria T. Brouwer, *Weber, Schumpeter and Knight on Entrepreneurship and Economic Development*, 12 J. EVOL. ECON. 83, 89 (2002) (discussing Schumpeter's views on entrepreneurship and innovation).

156. Heather Rolfe, *Learning to Take Risks, Learning to Succeed*, NAT'L ENDOWMENT FOR SCI., TECH. & ARTS (June 2010), http://www.nesta.org.uk/library/documents/Learning_to_take_risks.pdf.

157. Owen, *supra* note 100, at 376 ("Schumpeter and his followers had in mind an industry characterized by a continuing game in which process or product innovation is a key dimension of competition, requiring significant investment and risk.").

158. Geoffrey A. Manne & Joshua D. Wright, *Innovation and the Limits of Antitrust*, 6 J. COMPETITION L. & ECON. 153, 171 (2010).

> This has long-run dynamic efficiency effects, chilling the very innovation that might confer initial consumer surplus, but it also may simply miss the mark in a more static sense, punishing conduct that is already consumer-welfare enhancing.[159]

Wu's Separations Principle generally ignores these insights and instead proposes that policymakers engage in preemptive, prophylactic market-carving efforts to head-off unproven market-power problems.[160] This discounts the potential for Schumpeterian change even though we have already witnessed repeated waves of such creative destruction reordering the information economy over the past two decades.

E. Openness Concerns

Throughout his work, Wu cites "openness" for networks, platforms, devices, and the like as a primary rationale for regulation, including his proposed Separations Principle.[161] He speaks of "the perennial Manichean contest informing every episode in this book: the struggle between the partisans of the open and the closed, between the decentralized and the consolidated versions of a proper order."[162] Such openness concerns are generally unwarranted or overblown, however.[163]

First, "as an analytical tool the labels 'open' and 'closed' are of limited utility, because they cannot adequately capture the complexity of selective openness at various layers of a system within their single binary distinction," observes Hanno F. Kaiser, a U.S. and EU antitrust lawyer.[164] Wu is often unclear about what constitutes "openness" or why some devices or platforms are supposedly more open than others. "A reader who pays close attention," observes Paul Starr in his review of Wu's book, "will notice a clever sleight of hand: The terms 'open' and 'closed' change in

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159. *Id.*; *see also* Eric Goldman, *Revisiting Search Engine Bias*, 38 WM. MITCHELL L. REV. 96, 101 (2011) ("First, if we evaluate Internet competition only by taking a point-in-time snapshot of existing competitors, we will probably fail to anticipate the identity and business proposition of disruptive new entrants. Second, in a digital environment with low switching costs between vendors, consumers will flock to new entrants that solve their informational needs—even if the competitors offer a very different solution. As a result, a dominant information provider in one technological niche still faces significant cross-elasticities of demand from providers in other technological niches.").

160. *See* THE MASTER SWITCH, *supra* note 1, at 304-16.

161. *See, e.g.*, *id.* at 314-16 (using openness to justify the Separations Principle).

162. *Id.* at 273.

163. *See generally* Adam Thierer, *The Case for Internet Optimism, Part 2: Saving the Net from its Supporters, in* THE NEXT DIGITAL DECADE: ESSAYS ON THE FUTURE OF THE INTERNET 139, 143 (Berin Szoka & Adam Marcus eds., 2010) (indicating that fears of closed systems are overstated).

164. Hanno F. Kaiser, *Are Closed Systems an Antitrust Problem?*, 7 COMPETITION POL'Y INT'L 91, 94 (2011).

meaning from one chapter to another."[165] That probably is not intentional, but simply reflects the complexity of defining these subjective, evolving concepts.

Second, moving beyond definitional deficiencies, even if one grants that some information systems are more "closed" than others, it is evident that there must be a need for some closed devices and platforms or the market would not have supplied them. Building on concerns first articulated by Lessig and Jonathan Zittrain,[166] Wu fears closed systems will become mere "digital appliances" that are not sufficiently "generative."[167] He worries when he sees that devices like Apple's iPad "are computers that have been reduced to a strictly limited set of functions that they are designed to perform extremely well."[168] Needless to say, most consumers will find it hard to sympathize with Wu's complaint that Apple's products work too well, even if the devices are not as open as Wu desires.

Third, it is unclear how an effort to mandate openness would improve consumer welfare. Would consumers be better served if they were offered only devices that arrived totally un-configured? Should the iPhone or iPad, for example, be shipped to market with no applications loaded on the main screen, forcing everyone to go find them on their own? Few people want to program their mobile phones, hack their computers or gaming consoles, or write their own code. Markets serve these populations with specialized devices that offer a diverse array of open and closed choices to fit their specific needs. Further, while opening closed systems, however defined, may produce some beneficial flexibility for consumers, it might also reduce the incentive to create new systems since firms cannot enjoy some of the competitive benefits of closed systems. Whether this would be a net benefit for consumers in the end cannot be determined here, but it is possible that closed systems—which give firms some control and perhaps some added profitability—incented the creation of the high-quality tech products on the market today.[169]

What is important is the fact that innovation continues to unfold rapidly in both directions along the open versus closed continuum, and the Separations Principle would stymie evolution.[170] There are more open and

165. Starr, *supra* note 21.

166. *See* LESSIG, *supra* note 36; JONATHAN ZITTRAIN, THE FUTURE OF THE INTERNET—AND HOW TO STOP IT (2008); Jonathan Zittrain, *Lost in the Cloud*, N.Y. TIMES (July 19, 2009) http://www.nytimes.com/2009/07/20/opinion/20zittrain.html.

167. THE MASTER SWITCH, *supra* note 1, at 291, 293.

168. *Id.* at 292.

169. See Harold Demsetz, *Barriers to Entry*, 72 AM. ECON. REV. 47, 51 (1982), for an explanation of how permitting closed systems may be similar to granting intellectual property protections and how removing intellectual property protections would discourage the creation of new products while providing some short-term consumer benefits.

170. Peter Decherney et al., *Are Those Who Ignore History Doomed to Repeat It?*, 78 U. CHI. L. REV. 1627, 1665 (2011). ("It is true that in certain technologies, in specific historical periods, the balance between open and closed can become upset. It is not at all

closed devices and systems than ever. For example, each time Apple creates a new product category (iPod, iPhone, iPad), other companies are quick to follow with their own, usually more open systems, many of which run Google's more open Android operating system. It is clear, therefore, "that elements of the system can be made open while others remain proprietary," and that "these are not primarily ideological positions; they are commercial strategies."[171] Many of the largest "information empires" do not create strict walled gardens; instead they create partially walled gardens and invite many others to enjoy them. One way they do so is by licensing upstream content to other downstream platform providers. For example, Microsoft Office runs on multiple operating systems; Amazon's Kindle service is available via apps on the iPhone and iPad as well as Android devices; Google's many services are available across browsers, phones, tablets, and so on. These trends and strategies remain in constant flux yielding varied forms of pro-consumer innovation.

Finally, most corporate attempts to bottle up information, or close off their platforms, end badly. The walled gardens of the past—CompuServe and America Online, for example—failed in the end: CompuServe no longer exists and AOL has been relegated to an also-ran in the Internet ecosystem.[172] There are few reasons to believe that today's efforts to build such walled gardens would end much differently, in time.[173]

These openness concerns arise from Wu's fundamentally static model of competition and innovation. Properly defined, open systems are based on marketplace experimentation and consumer choices, even if some closed devices and platforms are popular and thrive naturally. A truly open system is one that allows for experimentation with varying models of production to determine what consumers prefer.

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obvious, however, that the history of either the personal computer or the Internet illustrates a clear or inevitable trajectory from open to closed. The reality is much more complicated.").

171. *Id.*

172. In her critique of Zittrain's book, Ann Bartow notes that "if Zittrain is correct that CompuServe and America Online (AOL) exemplify the evils of tethering, it's pretty clear the market punished those entities pretty harshly without Internet governance-style interventions." Ann Bartow, *A Portrait of the Internet as a Young Man*, 108 MICH. L. REV. 1079, 1088 (2010).

173. Moreover, today's "walled gardens"—Facebook and LinkedIn, for example—are less "walled" than they were in the past. Similarly, "closed" systems and devices are not really so closed. Increasingly, when companies or coders erect walls of any sort, holes form quickly. For example, it usually does not take long for a determined group of hackers to find ways around copy/security protections on various types of content or to "root" or "jailbreak" phones and other devices. Once hacked, users are usually able to configure their devices or applications however they wish, effectively thumbing their noses at developers. This process tends to unfold in a matter of days, even hours, after the release of a new device or operating system. On the other hand, some consumers may prefer the closed systems, but then there is not much consumer-welfare loss.

IV. REAL-WORLD APPLICATION OF THE SEPARATIONS PRINCIPLE

A. *Self-Regulation Norms*

Wu states that a necessary component of the Separations Principle is that firms voluntarily adopt self-governing norms that ensure vertical separations.[174] This is an unlikely proposition. Firms can take advantage of efficiencies through vertical integration, as discussed previously, so self-regulation would mean voluntarily forfeiting those benefits. Since there are only a few dominant firms in each layer of the information economy, however, it is conceivable that firms could organize to mutually ensure each firm stayed in its respective "bucket," but the anticompetitive effects from this kind of self-regulation are readily apparent. With only a few dominant players at every level, firms may self-regulate to acquire monopoly rents at the horizontal platform they occupy. These firms would no longer be constrained by their large ex-competitors who have exited the market for their own bucket.

Would consumers really be better off if Amazon agreed with Apple to not compete with each other in the information creator and information hardware maker markets? One can imagine Amazon willingly giving up its Kindle business in order to focus on distributing content to e-readers, knowing that Apple would no longer compete in the music and e-reader distribution business. Apple, of course, would probably be happy to no longer compete with Amazon in the e-reader device market if Amazon left the content space. These are the very self-regulating agreements we would expect if firms adopted Wu's desired industry norms. It is apparent, however, that agreements like this resemble collusion and market division between competitors, which are acts currently prosecuted as per se violations by antitrust agencies because the anti-consumer effects are so obvious.[175] These anti-consumer dangers do not disappear if favored by the government through adoption of the Separations Principle.

B. *Enforcement Challenges Associated with the Separations Principle*

Regarding the "prevention and dissolution" of vertical mergers between the content production, telecom, and electronics sectors, Wu proposes the FCC impose the Separations Principle since it is currently

174. THE MASTER SWITCH, *supra* note 1, at 313.

175. *See* Arizona v. Maricopa Co. Med. Soc., 457 U.S. 332, 344 n.15 (1982) (asserting that the "division of markets" is a per se offense). *See also* Palmer v. BRG of Ga., Inc., 498 U.S. 46, 49-50 (1990).

within the FCC's authority to do so;[176] presumably referring to the agency's amorphous "public interest and convenience" standard.[177] In addition to the FCC, Wu says the DOJ and the FTC are needed as backup.[178] Wu acknowledges the public-choice problems involved: "Time and again [the government] has stood beside concentrated power against the underdog at the expense of economic dynamism."[179] In the case of AT&T in the 1980s particularly, the FCC was a large source of the problems the DOJ tried to remedy.[180] While Wu imagines that separations would be fairly nonintrusive—it is a "constitutional" solution, not a "regulatory" one, remember—his Principle would actually result in pervasive and costly regulatory processes.

In his extensive analysis of 20th-century Sherman Act structural remedies, Brookings Institution economist Robert Crandall concludes that structural remedies, particularly vertical divestitures, are often very costly and fail to improve the competitive landscape or consumer welfare.[181] Further, he points out that it can be very difficult to enforce structural remedies in rapidly changing industries.[182] Crandall's conclusions cast doubt on the effectiveness and prudence of adopting a Separations Principle that would preemptively impose structural antitrust remedies. Structural remedies in the past, like the AT&T and Paramount breakups, required years of careful watch by a regulatory body and the courts.[183] In the 1984 AT&T decree, for instance, there were over thirty separate waiver requests filed every year for the first eight years of the decree, each one pending for months or years.[184] The entire information economy is moving incredibly fast, and separated firms would likely be at unforeseen disadvantages as the market transformed, similar to what happened with AT&T. There is reason to believe the fast-moving nature of the information economy would pose more problems for regulators than traditional regulated industries. If the vertical separations imagined by Wu were to be

176. *See* THE MASTER SWITCH, *supra* note 1, at 311.

177. *See* 47 U.S.C. § 303(r) (2006) ("[T]he Commission from time to time, as public convenience, interest, or necessity requires, shall . . . [m]ake such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this chapter . . . ."); WOKO, Inc. v. FCC, 109 F.2d 665, 667 (D.C. Cir. 1939) ("Within the area bounded by the standard of public interest, convenience and necessity, the Commission has wide discretionary power. If it acts within this area of discretion prescribed by the Act, and its determination is supported by substantial evidence, there is no ground or reason for judicial interference . . . .").

178. *See* THE MASTER SWITCH, *supra* note 1, at 312.

179. *See id.* at 308.

180. *See* Crandall, *supra* note 82, at 5, 6.

181. *See* Crandall, *supra* note 54, at 114, 161.

182. *See id.* at 114.

183. *See id.* at 115.

184. *See id.*

anything like prior dissolutions, the regulatory fights would be constant and require regular vigilance by the FCC to prevent exclusionary conduct.[185]

To give a taste of what regulation under the Separations Principle would look like, consider some of the high-profile dissolutions that would need to be implemented:

- **Apple**: Apple would have to be broken up into at least two companies: information creator and hardware maker. The Apple App Store, iTunes, iOS, and other programs would be separated from the iPad, iPod, iPhone, and other Apple devices. Those devices would need to be compatible with other content producers as well. Some device prices would rise since today they are subsidized by carriers, often on the condition of exclusivity.[186]

- **Microsoft**: Microsoft would also have to be broken up as an information creator and a hardware maker. Their software, video games, Internet Explorer web browser, and Hotmail email services would need to be separated from their Xbox game-console division, their recently acquired interest in Barnes & Noble's Nook e-reader, and, presumably, their Windows OS.[187] Microsoft's other hardware ventures—keyboards, mice, joysticks, peripherals, and so forth—would also have be moved to the hardware division.

- **Amazon**: Amazon would probably have to be broken into three companies since it occupies all three buckets. Amazon Web Services, its cloud-computing platform, would be an information distributor—its infrastructure in the information economy. Amazon's Kindle arm would become a separate company, in the hardware maker category.[188] Amazon's presence in the information creator category, featuring books, publishing, CDs, DVDs, software, video, and other products would likewise need to be kept separate.

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185. *Id.*, at 114.

186. Trefis Team, *AT&T Needs To Focus On Profitability As iPhone 5 Arrives*, FORBES (Sept. 12, 2012, 3:46 PM), http://www.forbes.com/sites/greatspeculations/2012/09/12/att-needs-to-focus-on-profitability-as-iphone-5-arrives/.

187. *See* Peter Ha, *Sources: Microsoft And Barnes & Noble To Announce Tablet With Xbox Live Streaming Tomorrow*, TECHCRUNCH (June 17, 2012), http://techcrunch.com/2012/06/17/ms-la/.

188. *See* Barb Darrow, *The Kindle Fire has Sizzle, but AWS is the Steak*, GIGAOM (Nov. 14, 2011), http://gigaom.com/cloud/the-kindle-fire-has-sizzle-but-aws-is-the-steak/; Bryan Carey, *Amazon.com Black Friday Week Begins*, EXAMINER.COM (Nov. 19, 2012), http://www.examiner.com/article/amazon-com-black-friday-week-begins.

- **Google**: Google also occupies all three categories. Google's substantial interest in the Current Communications Group—a smart-grid network—would be placed in the information distributor category,[189] as would the Google Fiber broadband network.[190] Google, of course, is predominantly in the information creator business with services like search, YouTube, Google Maps, Android software, and Gmail. Google's recent $12.5 billion purchase of Motorola Mobility would need to be spun off into the hardware maker category even though the partnership could help Google compete more squarely against Apple.[191]

- **Comcast**: Comcast is a major cable operator and ISP, but it also owns cable networks like E!, the Golf Channel, and various sport properties.[192] In 2013, Comcast completed its purchase of NBCUniversal, which produces content like NBC broadcasting and cable channels USA, Bravo, and MSNBC.[193] Comcast would be split into an information creator and a separate information distributor.

- **Sony**: Sony produces movie and video-game content but also develops hardware, like video game consoles, televisions, music players, and phones, on which that content can be played.[194] These units would need to be separated and some of them spun off.

These are some of the leading names of the information economy, but there are thousands of other information-sector companies operating across dozens of sectors throughout our economy. TechAmerica, a technology industry trade association with diverse membership, uses over

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189. *See* Jon M. Garon, *Searching Inside Google: Cases, Controversies and the Future of the World's Most Provocative Company*, 30 LOY. L.A. ENT. L. REV. 429-38 (2009-2010).

190. *See* Nathan Olivarez-Giles, *Google Fiber in Kansas City, Kan., free to schools, available to public in 2012*, L.A. TIMES (Mar. 30, 2011) http://latimesblogs.latimes.com/technology/2011/03/google-fiber-in-kansas-city-kan-free-to-schools-available-to-public-in-2012.html.

191. Tim Bajarin, *Why Google Will Use Motorola to Become Vertically Integrated*, TECH.PINIONS (Apr. 23, 2012), http://techpinions.com/why-google-will-become-vertically-integrated/6575.

192. *See* Press Release, Comcast, Comcast and GOLF CHANNEL Roll Out Series to Introduce America's Youth to Golf's African-American Pioneers (July 23, 2009), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=ay6g4wqiZqCM.

193. Martin Peers et al., *Comcast Buys Rest of NBC's Parent*, WALL ST. J. (Feb. 13, 2013), http://online.wsj.com/article/SB10001424127887324880504578300432831438770.html.

194 *See* Richard A. Gershon & Tsutomu Kanayama, *The Sony Corporation: A Case Study in Transnational Media, Management* 4 INT'L J. MEDIA MGMT. 105, 110 (2002).

fifty North American Industry Classification System ("NAICS") codes to define the U.S. high-technology industry.[195] Although companies choose only one primary NAICS designation,[196] in practice the diversity of goods and services they provide often cuts across multiple industrial classifications. For example, Google's primary NAICS designation is NAICS #517919 ("All Other Telecommunications") even though it would seem more logical for the firm to be housed under NAICS #519130 ("Internet Publishing and Broadcasting and Web Search Portals").[197] Of course, Google could just as easily be classified under NAICS #511210 ("Software Publishers"), where it competes against Microsoft, among others, or under NAICS #334111 ("Electronic Computer Manufacturing"), where it competes against Apple. In other words, it is rare to find a major company in the information economy that operates in just one NAICS field. The crucial point here is that creating firewalls between the buckets Wu proposes would be far more complicated than Wu admits and would entail incessant regulatory interventions to make sure the walls were not breached. More importantly, each new information sector innovation would suddenly be subjected to a regulatory classification proceeding. The costs for those to industries, consumers, and innovation would be significant.

Further, it is not clear that the Separations Principle—without more—would prevent the sort of exclusionary harms Wu fears since there is little competitive difference between vertical integration through ownership or through contract.[198] Would the Principle also require the FCC to examine and prohibit certain vertical contracts? For example, if Apple were divided into two companies—a device company and a content company—and they immediately contracted together for, say, a five-year exclusive deal, this looks much like the status quo (with some contracting costs). Would the FCC need the power to prevent these de facto vertical integrations as well?

Astonishingly, Wu suggests that "a Separations regime would take much of the guesswork and impressionism . . . out of the oversight of the information industries."[199] To the extent that his Separations Principle eliminates guesswork and creates more regulatory certainty, it would do so only by creating rigid artificial barriers to market entry across the information economy. That seems to be the kind of "certainty" we can live

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195. *TechAmerica's NAICS-Based Definition of High Tech*, TECHAMERICA (Dec. 25, 2010), http://www.techamerica.org/naics-definition.

196. *Frequently Asked Questions*, NAICS ASS'N, http://www.naics.com/faq.htm (last visited Nov. 18, 2012).

197. *See NAICS Code Description: 517919 All Other Telecommunications*, NAICS ASS'N, http://www.naics.com/free-code-search/naicsdescription.php?code=517919 (last visited Nov. 18, 2012); *NAICS Code Description: 519130 Internet Publishing and Broadcasting and Web Search Portals*, NAICS ASS'N, http://www.naics.com/free-code-search/naicsdescription.php?code=519130 (last visited Nov. 18, 2012).

198. Hovenkamp, *supra* note 79, at 883.

199. THE MASTER SWITCH, *supra* note 1, at 307.

without. It is doubtful that regulators will possess the requisite knowledge to define present markets in a static sense, or know which vertical contracts will be unduly exclusionary. As F.A. Hayek noted, "[p]rogress by its very nature cannot be planned."[200] As Sidak and Teece argued:

> [I]f one is to adopt a forward-looking antitrust analysis, then neither the enforcement agencies nor the courts will likely know which products will be good substitutes in the future. Because innovation produces new products and lowers the cost of existing products, policymakers must include such future products when defining the market, but doing so is quite difficult in many instances . . . .[201]

Wu's proposed solution, however, ignores these problems.

C. Other Considerations Regarding the Wisdom of the Separations Principle

This section briefly discusses a handful of other considerations that would complicate the creation and ongoing enforcement of Wu's Separations Principle.

1. Regulatory Capture

Wu rightly points to the danger of regulatory capture in heavily regulated communications and media sectors:

> Again and again in the histories I have recounted, the state has shown itself an inferior arbiter of what is good for the information industries. The federal government's role in radio and television from the 1920s through the 1960s, for instance, was nothing short of a disgrace . . . . Government's tendency to protect large market players amounts to an illegitimate complicity . . . [particularly its] sense of obligation to protect big industries irrespective of their having become uncompetitive.[202]

But as quickly as Wu raises this problem, he seems to dismiss it. He seems to imagine that a new separations regime will be immune to such tendencies. That is unlikely to be the case. A long line of economists and political scientists have documented how affected parties often capture the

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200. FRIEDRICH A. HAYEK, THE CONSTITUTION OF LIBERTY 41 (1960).
201. Sidak & Teece, *supra* note 150, at 614.
202. THE MASTER SWITCH, *supra* note 1, at 307-08.

regulatory process and use it for their own ends.[203] Capture theory is closely related to the rent-seeking and political failure theories developed by the public choice school of economics.[204] While capture theory cannot explain all regulatory decisions or developments, it does explain with dismaying consistency how self-interested motives can affect political actions.[205] The traditional normative theory of regulation, which viewed policymakers as enlightened, independent, and benevolent actors,[206] failed to address this problematic, recurring reality, as well as other deficiencies in the political decision-making process. Scholars developed a new, more robust economic theory of regulation to help explain why the traditional paradigm was incomplete.[207] These scholars argued it was inappropriate to assume regulatory intervention was always in the public interest or would always improve consumer welfare.[208]

In particular, University of Chicago economist George Stigler's pioneering work in developing this more robust economic theory of regulation revealed how "as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefits."[209] Alfred Kahn's meticulous study of the regulatory process also identifies how capture was a particular problem for utility sectors:

> When a commission is responsible for the performance of an industry, it is under never completely escapable pressure to protect the health of the companies it regulates, to assure a desirable performance by relying on those monopolistic chosen instruments and its own controls rather than on the unplanned and unplannable forces of competition . . . . Responsible for the continued provision and improvement of service, [the regulatory commission] comes increasingly and

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203. *See, e.g.*, Adam Thierer, *Regulatory Capture: What the Experts Have Found*, TECH. LIBERATION FRONT (Dec. 19, 2010), http://techliberation.com/2010/12/19/regulatory-capture-what-the-experts-have-found.

204. GORDON TULLOCK ET AL., GOVERNMENT FAILURE: A PRIMER IN PUBLIC CHOICE (2002).

205. Thierer, *supra* note 203.

206. RANDY T. SIMMONS & GORDON TULLOCK, BEYOND POLITICS: THE ROOTS OF GOVERNMENT 42 (2011) ("For more than one hundred years the basic vision of bureaucracy has been that efficiency is promoted by professional, nonpartisan administration directed by a strong executive," notes economist Randy T. Simmons. "Scientific management of public agencies . . . is based on the belief that 'right-minded' managers, who are not motivated by profit or other selfish goals, will protect the public interest while managing government agencies, programs and properties.").

207. W. KIP VISCUSI ET AL., ECONOMICS OF REGULATION AND ANTITRUST 328-46 (2d ed. 1998).

208. Sam Peltzman et al., *The Economic Theory of Regulation after a Decade of Deregulation*, BROOKINGS PAPERS ECON. ACTIVITY: MICROECONOMICS, 1989, at 1.

209. George Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 1, 3 (1971). For a broader discussion of capture theory, see Viscusi et al., *supra* note 205, at 327–46.

> understandably to identify the interest of the public with that of the existing companies on whom it must rely to deliver goods.[210]

Many other scholars have identified capture as a recurring problem in regulated industries.[211] They concur with UCLA emeritus professor of business economics Harold Demsetz's conclusion that "in utility industries, regulation has often been sought because of the inconvenience of competition."[212] The railroad industry provides a particularly egregious example of such capture.[213] The airline industry presents another such example.[214] Both industries used their respective regulators (the Interstate

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210. ALFRED E. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS 12, 46 (7th ed. 1998).

211. *See, e.g.*, Anthony Downs, *An Economic Theory of Political Action in a Democracy*, 65 J. POL. ECON. 135 (1957); William A. Jordan, *Producer Protection, Prior Market Structure and the Effects of Government Regulation*, 15 J.L. & ECON. 151 (1972); Mark Green & Ralph Nader, *Economic Regulation vs. Competition: Uncle Sam the Monopoly Man*, 82 YALE L.J. 871 (1973); Barry R. Weingast, *Regulation, Reregulation and Deregulation: The Foundation of Agency-Clientele Relationships*, 44 LAW & CONTEMP. PROBS. 147 (1981); Bruce Yandle, *Bootleggers and Baptists: The Education of a Regulatory Economist*, 7 AEI J. GOV'T & SOC'Y 12 (1983); William W. Bratton & Joseph A. McCahery, *Regulatory Competition, Regulatory Capture, and Corporate Self-regulation*, 73 N.C. L. REV. 1861 (1995); Fred S. McChesney, *Rent Extraction and Rent Creation in the Economic Theory of Regulation*, 16 J. LEGAL STUD. 101 (1987); Jean-Jacques Laffont & Jean Tirole, *The Politics of Government Decision-Making: A Theory of Regulatory Capture*, 106 Q.J. ECON. 1089.

212. Harold Demsetz, *Why Regulate Utilities?*, 11 J.L. ECON. 55, 61 (1968).

213. Thomas Frank, *Obama and 'Regulatory Capture'*, WALL ST. J. (June 24, 2009), http://online.wsj.com/article/SB124580461065744913.html ("The first federal regulatory agency, the Interstate Commerce Commission, was set up to regulate railroad freight rates in the 1880s. Soon thereafter, Richard Olney, a prominent railroad lawyer, came to Washington to serve as Grover Cleveland's attorney general. Olney's former boss asked him if he would help kill off the hated ICC. Olney's reply, handed down at the very dawn of Big Government, should be regarded as an urtext of the regulatory state: 'The Commission . . . is, or can be made, of great use to the railroads. It satisfies the popular clamor for a government supervision of the railroads, at the same time that that supervision is almost entirely nominal. Further, the older such a commission gets to be, the more inclined it will be found to take the business and railroad view of things . . . . The part of wisdom is not to destroy the Commission, but to utilize it.'").

214. THOMAS K. MCCRAW, PROPHETS OF REGULATION 263 (1984) ("Clearly, in passing the Civil Aeronautics Act [of 1938], Congress intended to bring stability to airlines. What is not clear is whether the legislature intended to cartelize the industry. Yet this did happen. During the forty years between passage of the act of 1938 and the appointment of [Alfred] Kahn to the CAB chairmanship, the overall effect of board policies tended to freeze the industry more or less in its configuration of 1938. One policy, for example, forbade price competition. Instead the CAB ordinarily required that all carriers flying a certain route charge the same rates for the same class of customer . . . . A second policy had to do with the CAB's stance toward the entry of new companies into the business. Charged by Congress with the duty of ascertaining whether or not 'the public interest, convenience, and necessity' mandated that new carriers should receive a certificate to operate, the board often ruled simply that no applicant met these tests. In fact, over the entire history of the CAB, no new trunkline carrier had been permitted to join the sixteen that existed in 1938. And those

Commerce Commission and the Civil Aeronautics Board) to promote cartelization and market protectionism. When capture occurs, it lessens not only the innovation that would flow from other market entrants and entrepreneurs, but also the innovation of the regulated entity itself, which shifts its focus to controlling the regulatory process and sheltering itself from disruptive change.

One can debate the chicken-and-egg question of which came first—the assignment of utility status or the capture of regulators by special interests—but the inquiry is largely irrelevant. Capture is a recurring problem within such sectors and undercuts traditional "public interest" rationales for intervention.[215] The FCC, by subjecting the telecommunications, electronics, and content-production industries to the Separations Principle, would be exposed to increased rent-seeking behavior by some of the most powerful firms in the world.[216] Given the difficulty of what Wu proposes, the risk of capture should not be underestimated.

2. Global Reach and International Competitiveness

It is unclear how Wu's regime would work for a sector with the global reach of information technology. Companies operating in these sectors often serve a global audience and possess many global affiliates. While these affiliates must conform their business practices to the host country's laws and norms, the application of the Separations Principle in one country—especially the United States—would have a profound effect on how affected firms do business in many other markets. It would be difficult, for example, to operate a structurally separated enterprise in the United States but maintain a vertically integrated operation in other countries. It would be more likely that affected firms would simply relocate primary operations to countries where firms enjoy a more hospitable regulatory environment and then determine how to deal with importation to markets governed by Wu's Separations Principle.

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sixteen, later reduced to ten by a series of mergers, still dominated the industry in the 1970s. All these companies . . . developed into large companies under the protective wing of the CAB. None wanted deregulation.").

215. David J. Farber & Gerald R. Faulhaber, *Net Neutrality: No One Will Be Satisfied, Everyone Will Complain*, ATLANTIC (Dec. 21, 2010, 7:30AM), http://www.theatlantic.com/technology/archive/2010/12/net-neutrality-no-one-will-be-satisfied-everyone-will-complain/68326 ("When the FCC asserts regulatory jurisdiction over an area of telecommunications, the dynamic of the industry changes. No longer are customer needs and desires at the forefront of firms' competitive strategies; rather firms take their competitive battles to the FCC, hoping for a favorable ruling that will translate into a marketplace advantage. Customer needs take second place; regulatory "rent-seeking" becomes the rule of the day, and a previously innovative and vibrant industry becomes a creature of government rule-making.").

216. Bruce M. Owen, *Communication Policy Reform, Interest Groups, and Legislative Capture* 9 (Stanford Inst. for Econ. Pol'y Research, Discussion Paper No. 11-006, Jan. 18, 2012), *available at* http://publicpolicy.stanford.edu/publicationsprofile/2391.

This makes it clear that Wu's proposed regime could also deleteriously affect the competitiveness of U.S.-based firms who currently operate or export globally. Currently, the United States is a leader in many of the information sectors and Wu's Separations Principle would affect that. It is unlikely that U.S.-based firms, currently considered global leaders in their fields would be able to maintain their global competitive advantage if stripped of the ability to capitalize on the benefits of vertical integration.

3. Agency Conflicts and Administrative and Due Process Issues

Wu envisions a regulatory framework where the FCC would be the primary enforcer of the Separations Principle and the FTC and the DOJ would supplement the FCC's oversight.[217] In light of recent Supreme Court decisions, there is reason to doubt that these antitrust agencies could actually exercise this type of oversight. For decades, the Court wrestled with whether an extensive regulatory regime displaces concurrent antitrust lawsuits.[218] Two Supreme Court cases decided in the past 10 years, *Trinko* and *Credit Suisse*, make it much more difficult for the antitrust agencies to bring antitrust cases in regulated industries.[219] Generally, based on these cases, (1) if a regulatory agency has authority to supervise the conduct in question; (2) the agency continuously exercises that authority; and (3) if there is a conflict between the antitrust and regulatory regimes, the FTC and the DOJ cannot bring an antitrust suit regarding that conduct.[220] In both cases, the Court was concerned about non-expert judges and juries erring in competition issues and harming consumer welfare.[221] This is a significant problem since Wu obviously doubts that the FCC, with its checkered past, can objectively exercise its responsibility to keep the buckets separate and not to favor any industry, technology, or firm. If Wu's Principle depends on antitrust oversight from the FTC and the DOJ but they are prohibited from acting under these court decisions, this represents an obstacle to implementing the Separations Principle.

Wu's proposed regulatory paradigm raises other administrative law considerations. As noted, given the power of special interests in gaining

217. THE MASTER SWITCH, *supra* note 1, at 312 ("It is inevitable that the FCC will occasionally fail in its mission, and for this reason the government's competition authorities, the Justice Department's Antitrust Division and the Federal Trade Commission, are necessary as a backup.").

218. *See* Silver v. NYSE, 373 U.S. 341, 348-49 (1963) (permitting a private antitrust lawsuit in the securities industry despite the existence of the Securities Exchange Act of 1934); Otter Tail Power v. United States, 410 U.S. 366, 372 (1973) (permitting the government's antitrust lawsuit against regulated electric utilities providers).

219. *See* Verizon Commc'ns v. Law Offices of Curtis V. Trinko, 540 U.S. 398, 407 (2004); Credit Suisse Sec. v. Billing, 551 U.S. 264, 268 (2007).

220. *Credit Suisse*, 551 U.S. at 277.

221. *Trinko*, 540 U.S. at 414-16; *Credit Suisse*, 551 U.S. at 281-82.

regulatory and congressional favors and the conflicting incentives of some regulators, it is unlikely that an agency like the FCC could restrain itself from putting its thumb on the scales for what it deemed the public interest. One needs to look no further than Wu's book and his other writings to see that regulators are often encouraged to be interventionist. Notably, Wu has advocated informal "agency threats" and the use of "threat regimes" to accomplish policy goals that prove difficult to steer though the formal rulemaking process.[222] His "defense of regulatory threats in particular contexts" is justified as follows:

> The use of threats instead of law can be a useful choice—not simply a procedural end run. My argument is that the merits of any regulative modality cannot be determined without reference to the state of the industry being regulated. Threat regimes, I suggest, are important and are best justified when the industry is undergoing rapid change—under conditions of "high uncertainty." Highly informal regimes are most useful, that is, when the agency faces a problem in an environment in which facts are highly unclear and evolving. Examples include periods surrounding a newly invented technology or business model, or a practice about which little is known.[223]

These threat regimes represent a significant departure from traditional democratic norms of accountable governance and limits on the delegation of legislative and regulatory authority.[224] They would also likely constitute a violation of the Administrative Procedures Act. Wu's assumption that threats make even *more* sense in fast-moving high-tech industries also seems counterintuitive and unwise.[225] "Anyone who predicts the technological future is sure soon to seem foolish," notes George Gilder. "It springs from human creativity and thus inevitably consists of surprise."[226] If a given sector finds itself in such a state of high uncertainty, it seems safe to assume that the state of competition and innovation would be dynamic enough that intervention would not be necessary or wise. Those would be the last sectors regulators should be preemptively micromanaging since they lack the requisite knowledge of whether a

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222. *See, e.g.*, Tim Wu, *Agency Threats*, 60 DUKE L.J. 1841 (2011).

223. *Id.* at 1842.

224. Lars Noah, *Administrative Arm-Twisting in the Shadow of Congressional Delegations of Authority*, 1997 WIS. L. REV. 873 (1997).

225. Wu seems to be guilty of what economist Israel Kirzner referred to as "the shortsightedness of those who, not recognizing the open-ended character of entrepreneurial discovery, repeatedly fall into the trap of forecasting the future against the background of today's expectations rather than against the unknowable background of tomorrow's discoveries." ISRAEL KIRZNER, DISCOVERY AND THE CAPITALIST PROCESS, at xi (1985).

226. GEORGE GILDER, WEALTH AND POVERTY 101 (1st ed. 1981).

market development will harm or benefit consumers in the long-term. This is especially true as it pertains to technological change and change in information markets.

Wu explicitly rejects the present antitrust model, which generally allows firms and innovators to respond to marketplace demands and developments in an evolutionary way, in favor of government intervention and intimidation:

> The [wait-and-see] option . . . may sound attractive because it allows the industry to develop in what might be called a natural way. This approach, however, makes a great sacrifice: the public's interest may be entirely unrepresented during the industry's formative period. The risk is that the industry's norms and business models will, effectively, be set without any public input. Waiting for the industry to settle down may result in undesirable practices that prove extremely hard to reverse or influence with rules issued later. To state the matter more colloquially, the industry may be "baked" by the time there is any real oversight or public input.[227]

Wu does not bother to offer any sort of robust cost-benefit analysis of the probability of such preemptive regulation benefiting consumers versus the probability of some short term harm developing absent such threats.[228]

Regardless, when we marry this vision of regulation-via-intimidation[229] to Wu's Separations Principle,[230] the scope of Wu's ambitions becomes obvious. After implementation, the high-tech sectors begin to resemble a mixed-economy model in which decisions are guided by the supposed wisdom of technocratic regulators.[231] We are asked to believe that such a heavy-handed regime will guide America's high-technology economy down a more innovative path, even if some threats may be necessary to get the job done, and entire segments of the economy must be destroyed and reordered to achieve this vision.[232] It is a breathtaking and radical vision for the future of information technology markets.

4. Fifth Amendment Takings Issues

Wu's Separations Principle would undermine companies' rights to some of their most valuable assets. His plan would likely require the

227. Wu, *supra* note 222, at 1850.
228. *See generally id.*
229. *See id.*
230. *See* THE MASTER SWITCH, *supra* note 1, at 304.
231. *Id.*
232. Wu, *supra* note 222, at 1851.

forcible disintegration of information platforms and providers that operate in the three layers of the information economy that Wu wants to keep strictly quarantined. For vertically integrated companies such as Apple or Microsoft, this requirement would have devastating ramifications. Indeed, for any media operator or information platform, being forced to divest assets or being structurally separated could mean the loss of integrative efficiencies, core competencies, and important product lines. Such breakups might also require companies to sacrifice crucial intellectual-property rights.[233] Finally, forcible disintegration could mean the loss of a valued part of the firm's labor force, as well as a significant loss of shareholder value. These losses constitute legal grounds for a takings challenge under the Fifth Amendment.[234]

At a minimum, regulatory proponents should not be surprised when these matters are litigated by affected companies and lengthy legal wrangling ensues.[235] Litigation would further limit innovation by the regulated entities and others in the field, and would likely chill broader industry investment by both the incumbent social media provider and its potential competitors.[236]

5. First Amendment Considerations

Wu believes that because information industries "traffic in forms of individual expression" and are so "fundamental to democracy," they should be subject to differential regulatory treatment.[237] He is troubled that the Constitution prohibits the government from limiting free speech but says nothing to prevent private institutions from doing so.

That the information economy comprises the "speech industry" and that private actors operate in many speech-facilitating platforms cannot—at least under a proper understanding of the First Amendment—serve as an excuse for the sort of sweeping regulation Wu desires. Wu's argument contradicts the thrust of the First Amendment, which has traditionally imposed a higher level of legal scrutiny on media-focused regulatory

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233. *See* Thomas F. Cotter, *The Essential Facilities Doctrine* 12 (Minn. Legal Studies Research Paper Series, Research Paper No. 08-18, 2008), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1125368 ("To the extent governments confer intellectual property rights (IPRs) precisely for the purpose of encouraging such investments, the application of the essential facilities doctrine to IPRs therefore may seem particularly dubious.").

234. RICHARD EPSTEIN, TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN 74-75 (1985); DAVID L. KASERMAN & JOHN W. MAYO, GOVERNMENT AND BUSINESS: THE ECONOMICS OF ANTITRUST AND REGULATION 435 (1995).

235. *See* Cotter, *supra* note 233, at 14.

236. *See id.* at 12 ("The prospect of obtaining access to the monopolist's facility reduces the plaintiff's incentive to invest in developing its own competing facility, thus perpetuating the monopolist's control over the facility and reducing the prospect of future competition.").

237. THE MASTER SWITCH, *supra* note 1, at 301-02.

efforts. Wu is essentially trying to marry media-access theory to pre-Chicago School antitrust thinking. Media-access theorists believe the rights of listeners—not speakers—are paramount under the First Amendment.[238] They rest their case primarily on some of the ambiguous language from the Supreme Court's controversial 1945 decision in *Associated Press v. United States*, in which the court fashioned a new theory of the First Amendment as the guarantor of a certain amount or type of speech.[239] Many policymakers and media critics have subsequently interpreted this case—as well as the court's decisions in *NBC v. United States*[240] and *Red Lion Broadcasting Co. v. FCC*[241]—as proof that media-ownership regulations and other press controls were demanded by the First Amendment to guarantee a certain level of diversity.[242]

In essence, media-access advocates say that once a given media provider becomes popular enough, everyone has a right to use it and the First Amendment allows the government to mold media in whatever form it wishes. Of course the First Amendment says nothing of the sort. Importantly, Wu makes the bar to government action even lower with his separations regime. Under Wu's paradigm, the fact that information industries "traffic in forms of individual expression" and are so "fundamental to democracy" would open them to almost unlimited structural regulation.[243]

Structural regulations are not purely content-neutral methods of media regulation, however. Christopher S. Yoo has coined the term "architectural censorship" to describe "the tangential, but [important], adverse impact on speech" that structural media regulations can have.[244] By

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238. Jerome A. Barron, *Access to the Press—A New First Amendment Right*, 80 HARV. L. REV. 1641, 1666 (1967); Owen M. Fiss, *Free Speech and Social Structures*, 71 IOWA L. REV. 1405, 1416 (1986) (arguing that a proper reading of the First Amendment requires "a change in our attitude about the state" such that we learn "to recognize the state not only as an enemy, but also as a friend of speech . . . [that should act] to enhance the quality of public debate.").

239. Associated Press v. United States, 326 U.S. 1, 20 (1945) (concluding that the First Amendment "rests on the assumption that the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public, that a free press is a condition of a free society.").

240. NBC v. United States, 319 U.S. 190, 227 (1943).

241. Red Lion Broad. Co. v. FCC, 395 U.S. 367, 400-01 (1969).

242. ROBERT W. MCCHESNEY & JOHN NICHOLS, OUR MEDIA, NOT THEIRS: THE DEMOCRATIC STRUGGLE AGAINST A CORPORATE MEDIA 49 (2002) ("The highly concentrated market makes a mockery of the freedom of press clause in the First Amendment, which was predicated on the ability of citizens to create their own media if they so desire.").

243. *See* THE MASTER SWITCH, *supra* note 1, at 301-02.

244. Christopher S. Yoo, *Architectural Censorship and the FCC*, 78 S. CAL. L. REV. 669, 674 (2005).

artificially limiting market structures or outputs, structural controls can limit the quantity and quality of media created.[245]

The danger with media-access mandates—even when they take the form of structural controls—is that they ultimately transform the First Amendment into an affirmative tool of the state that legislators and regulators can wield to control content and influence the editorial judgments of the press. As Justice Owen Roberts presciently warned fifty years ago in his dissenting opinion in *Associated Press v. United States*, the case that helped spawn the media-access movement:

> The decree here approved may well be, and I think threatens to be, but a first step in the shackling of the press, which will subvert the constitutional freedom to print or to withhold, to print as and how one's reason or one's interest dictates. When that time comes, the state will be supreme and freedom of the state will have superseded freedom of the individual to print, being responsible before the law for abuse of the high privilege.
>
> It is not protecting a freedom, but confining it, to prescribe where and how and under what conditions one must impart the literary product of his thought and research. This is fettering the press, not striking off its chains.[246]

Wu's separations regime would "fetter the press" along similar lines and significantly expand the horizons of government power over speech-producing and speech-disseminating industries. As a result, First Amendment values are implicated and litigation becomes more likely.

V. CONCLUSION

Wu's regulatory aims ultimately resemble those from 1950's and 1960's industrial organization theory, which suffered from "[c]asual observations of business behavior . . . , colorful characterizations, eclectic forays into sociology and psychology, descriptive statistics, and verification by plausibility."[247] Like the industrial organization theories in vogue during that period, Wu's Separations Principle is a proposition "that contradict[s] economic theory"[248] and should be avoided as preemptive remedy to merely speculative societal harms. The information economy today is dynamic and competitive. A Separations Principle that prevents

245. Clyde W. Crews Jr., *A Defense of Media Monopoly*, 21 COMM. LAW. 13, 15 (2003) ("Government restrictions on ownership are themselves censorship, and a coercive impediment to speech and a threat to democracy and wide scale expression.").

246. Associated Press v. United States, 326 U.S. 1, 48 (1945) (Roberts, J., dissenting).

247. Posner, *supra* note 32, at 928-29.

248. *Id.* at 929.

and dissolves vertical acquisitions would be substantially detrimental to consumers. Instead, we should embrace a different "separations principle" to guide policy: the preservation of a salutary distance between the state and all layers of the information economy.