Mergers in Mobile Telecommunications Services: 
A Primer on the Analysis of Their Competitive Effects

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Federal Communications Commission

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INTRODUCTION

Mergers¹ in the mobile telecommunications industry are popping up like worms after a spring rain. The Federal Communications Commission (the Commission or the FCC) is issuing thousands of local, regional, and nationwide licenses for Personal Communications Services (PCS), which are expected to be stitched together into national networks.² Existing mobile companies are combining vertically and horizontally,³ and satellite-based communications systems that will blanket the nation are moving off the drawing boards and into the air. Sober industry observers predict the clustering of now separate capabilities—telephone, dispatch, paging, for example—into a single box for "people on the move."⁴

All these transactions will involve the transfer of radio licenses and control over them. Such transfers may not occur without the prior approval of the Commission under the "public interest" standard of the Communications Act of 1934 (the Act).⁵ In granting or withholding its approval under the "public interest" standard, the Commission must consider the impact of each transfer on competition.⁶

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¹. For brevity, in this Article the term "merger" includes a merger, acquisition, joint venture, combination, and other transfer of stock, assets, or control. The term also includes mergers that are merely proposed and under consideration by the Commission. The term "company" includes corporations, partnerships, sole proprietorships, and other legal forms of business entities.

². See infra notes 107-08, 110 and accompanying text.


⁴. See, e.g., McCaw Buys $1.1 Billion in Stock from Nextel to Develop Enhanced 2-Way Radio, COMM. DAILY, Apr. 6, 1995, at 4, 4-5 (plans to "combine radio dispatch, duplex telephone interconnect, alphanumeric short message service and future data capabilities in one device"). See also infra notes 39, 88-90.

⁵. 47 U.S.C. § 310(d) (1994). Unlike the Department of Justice, which may acquiesce to a proposed merger, the Commission must affirmatively find that a proposed transfer is in the public interest, or else the transfer may not occur.

This Article describes the accepted standards for analyzing the competitive effects of mergers and suggests ways for the Commission to apply those standards to mergers involving mobile radio telecommunications services (mobile services). No article can exhaust the subject. Therefore, this Article seeks to state the major issues that should and should not arise in the Commission's competitive analysis and to suggest standards by which those issues could be decided.

Part I explains three definitional questions that typically start the competitive analysis of a merger. The answers to those questions determine the kind of competitive analysis that the merger will receive when reviewed by the FCC. Part I also suggests several possible answers to these questions for mobile services mergers. Part II then explains the analysis by which the pro- and anti-competitive effects of mergers are usually examined and evaluated, and highlights the effects that are most likely to be found in a mobile services merger. Finally, Part II surveys the remedies for the harms to competition likely to result from such a merger.

I. PRELIMINARY DEFINITIONS

The typical preliminary step in a competitive analysis of a merger is to answer three questions. The first two questions are: "What is the 'product market'?' and "What is the 'geographic market'?' Answers to these questions are a prerequisite for answering the basic question of whether the merger will help or hurt competition. The answers pinpoint exactly what kind of competition, if any, is involved in the merger, in exactly what business, and where. Within those limits, the substantive analysis of the merger begins with the third question: "Which of three

"public interest" standard of the Communications Act, the Commission must "seriously [consider] the antitrust consequences of a proposal and [weigh] those consequences with other public interest factors.").

In addition, the Commission has express authority over mergers of "common carriers engaged in . . . radio communications or radio transmissions of energy" under the Clayton Act, which prohibits mergers "in any line of commerce . . . in any section of the country" where the effect may be "substantially to lessen competition, or to tend to create a monopoly." 15 U.S.C. §§ 18, 21(a) (1994). The Commission seldom invokes this authority, however, because its authority under the Communications Act is usually sufficient to authorize whatever actions the Commission wishes to take concerning a merger. See, e.g., Craig O. McCaw, 9 FCC Rcd. paras. 7, 9 & n.25.

7. For a general discussion of how regulatory agencies such as the Commission apply antitrust and economic principles under the "public interest" standard of regulatory statutes, such as the Communications Act, see Northeast Utilities Serv. Co. v. FERC, 993 F.2d 937, 947-48 (1st Cir. 1993); Town of Concord v. Boston Edison Co., 915 F.2d 17, 22 (1st Cir. 1990), cert. denied, 499 U.S. 391 (1991); United States v. FCC, 652 F.2d 72, 82, 88 (D.C. Cir. 1980) (en banc); United States v. AT&T, 498 F. Supp. 353, 364 (D.D.C. 1980).
classifications best fits the merger—horizontal, vertical, or conglomerate?"

A. The Product Market

1. Generally

For each party to a merger, at least one product market must be defined. The United States Supreme Court, in its classic statement of what a product market is, said in *Brown Shoe Co., Inc. v. United States* that "[t]he outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and substitutes for it." In that case, the Supreme Court found three product markets—men's, women's and children's shoes. It chose not to find either one big product market for all shoes or hundreds of product markets for shoes of different sizes, ages, and styles. The Supreme Court based its finding on evidence of the public's recognition of the severability of men's, women's, and children's shoes, their manufacture in separate plants, the existence of peculiar characteristics of each kind of shoe that made it generally noncompetitive with the others, and the existence of distinct classes of customers for each kind of shoe. The Supreme Court has followed basically the same approach in similar cases, emphasizing reasonable interchangeability as shown by evidence of the actual behavior of consumers.

9. Id. at 325. Although *Brown Shoe* is almost thirty-five years old and might be decided differently on the merits if it were decided today, its criteria for defining product markets are still followed. See, e.g., *Allen-Myland, Inc. v. IBM Corp.*, 33 F.3d 194, 201 & n.8 (3d Cir. 1994); *U.S. Anchor Mfg., Inc. v. Rule Indus., Inc.*, 7 F.3d 986, 995 (11th Cir. 1993); *Community Publishers, Inc. v. Donrey Corp.*, 892 F. Supp. 1146, 1153-54 & n.9 (W.D. Ark. 1995); *In re Application of General Electric Co.*, *Memorandum Opinion and Order*, 4 FCC Rcd. 8207, para. 10 & n.29 (1989).

There is cross-elasticity of demand between two services if a change in the price of one causes a change in demand for the other. For example, if an increase in the price of cellular service would increase or decrease the demand for paging service, then cellular service has cross-elasticity of demand with paging service. See D.W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 920 (1994). See also *Community Publishers, Inc.*, 892 F. Supp. at 1153 & n.7 (citing *SuperTurf, Inc. v. Honsanto Co.*, 660 F.2d 1275, 1278 (8th Cir. 1981)).

10. *Brown Shoe*, 370 U.S. at 326-328. The Supreme Court cautioned against drawing product markets too narrowly. "[T]he boundaries of the relevant market must be drawn with sufficient breadth to include the competing products of each of the merging companies and to recognize competition where, in fact, competition exists." Id. at 326.

11. See, e.g., *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377 (1956). The Supreme Court stated that a product "market is composed of products that have reasonable interchangeability for the purposes for which they are produced—price, use and qualities considered." Id. at 404. "This interchangeability is largely gauged by the purchase
There are a few "short rules" about defining product markets. First, a product market may be a cluster of different products or services that is "sufficiently inclusive to be meaningful in terms of trade realities." Second, two services may be in the same product market even if they are not identical, or even fungible, so long as there is demonstrated competition between them. Third, many distinctions that people in a business consider important, such as technology (e.g., analog versus digital) and regulatory classifications (e.g., common carrier versus private), are probably irrelevant to the "reasonable interchangeability" test. What matters most are the perception and actual behavior of customers. If a digital call and an analog call sound the same to a consumer (and all other things are equal), both are probably in the same product market. Fourth, within a product market, there may be one or more submarkets. That is a


13. For example, the Supreme Court found glass and metal containers and all end uses for which they compete to be in the same product market, despite clear differences in their production methods, prices, and possible uses. United States v. Continental Can Co., 378 U.S. 441, 449-53 (1964). The Supreme Court was convinced by evidence showing that over the years the manufacturers of glass and metal containers had competed for the same customers (e.g., baby food companies, beer brewers), and each had won over some of the other's customers. Id.

A later case described the Supreme Court's decision in Continental Can as an examination of "the substitution of containers in certain end uses, the attempts by producers to expand their market shares, and [the fact] that producers took the pricing of the competing container into account in marketing their own product. The structure, history, and probable future of the industries involved were also considered." FTC v. Owens-Illinois, Inc., 681 F. Supp. 27, 34-35 (D.D.C. 1988), vacated on other grounds, 850 F.2d 694 (D.C. Cir. 1988). The court in Owens-Illinois, found a broader product market of "rigid-walled containers," including not only glass and metal containers, but also plastic and paper ones. Id. at 46, 54-55. Again, the court was convinced by evidence that showed manufacturers of each product competing with the others for the same customers. See also United States v. General Dynamics Corp., 415 U.S. 486, 491 (1974) (noting the district court's finding of a product market of "energy," consisting of coal, oil, natural gas, nuclear energy, and geothermal power).

section of a market which has enough distinctive characteristics that it is treated as part of a market and as a separate market in its own right.\textsuperscript{15} The Supreme Court's "reasonable interchangeability" test for defining product markets is subjective and somewhat imprecise. As the Court itself has said, "[N]o more definite rule can be declared than that commodities reasonably interchangeable by consumers for the same purposes" constitute one product market.\textsuperscript{16} If the test is applied loosely, it can lead to product markets that are so broad that almost any merger within those markets will not seem to threaten competition.\textsuperscript{17}

An alternative and purportedly more precise test for defining a product market can be found in the most recent Department of Justice and Federal Trade Commission 1992 Horizontal Merger Guidelines.\textsuperscript{18} The Horizontal Guidelines focus on one factor, price, and even more specifically on the effect of price increases on consumers' behavior.\textsuperscript{19} Under the Horizontal Guidelines, a product market is "a product or group of products such that a hypothetical profit-maximizing firm that was the only present and future seller of those products . . . likely would impose at least a 'small but significant and nontransitory' increase in price."\textsuperscript{20} The Horizontal Guidelines restate this definition in terms of a test. To determine whether Product A is in the same market as Product B, ask whether, if all

\textsuperscript{15} Submarkets are defined by much the same factors as markets. Continental Can., 378 U.S. at 457-58; Brown Shoe Co., Inc. v. United States, 370 U.S. 294, 325 (1962). Some later cases disparage the idea of submarkets, reasoning that something is either a full-fledged product market or it is not. Allen-Myland, Inc. v. IBM Corp., 33 F.3d 194, 208 n.16 (3rd Cir. 1994) ("The use of the term 'submarket' is somewhat confusing."); Satellite TV & Associated Resources, Inc. v. Continental Cablevision of Virginia, Inc., 714 F.2d 351, 355 n.5 (4th Cir. 1983) ("The term 'submarket' is to be avoided; it adds only confusion to an already imprecise and complex endeavor."); Community Publishers, Inc. v. Donrey Corp., 892 F. Supp. 1146, 1154 n.9 (W.D. Ark. 1995) ("[T]he term 'submarket' is unnecessary.").


\textsuperscript{17} See, e.g., Robert Pitofsky, New Definitions of Relevant Market and the Assault on Antitrust, 90 COLUM. L. REV. 1805, 1810-18 (1990).


\textsuperscript{19} This is part of cross-elasticity of demand, which is one component of the Supreme Court's "reasonable interchangeability" test. See supra nn. 9, 11, 13.

\textsuperscript{20} Horizontal Guidelines, supra note 18, § 1.11, at 20,572. If the firm could profit from price discrimination among its customers in a product market, the Horizontal Guidelines may treat each such group of customers as a separate product market. Id., § 1.12, at 20,573.
the sellers of Product A increased their prices by 5 percent—and not
because of increased costs—for one year, would enough buyers shift to
buying Product B so that the price increase would prove unprofitable for
the sellers of Product A. In other words, if all cellular service providers
raised their prices by 5 percent for one year, would the increased
revenues from their remaining cellular customers more than offset their
losses from customers who switched to a cheaper substitute prod-
uct—paging services, for example. If the cellular providers suffer a net
loss, then paging belongs in the product market with cellular service.

The Five Percent Question has drawbacks. First, it has been criticized
for inevitably leading to unduly narrow product markets—just as the
"reasonable interchangeability" test has been criticized for leading to
unduly broad ones. Second, the Five Percent Question is hypothetical. One
source for the answer to the hypothetical question is the executives of the
merging companies or their experts, whose opinions are likely to be self-
serving. A more reliable answer to the question could be obtained by a
professional survey of buyers of Product A, asking what they would do in
the event of a 5 percent price increase. Such a survey, however, is
expensive and somewhat impractical for litigation at the FCC, and it would

21. Although the Horizontal Guidelines do not prescribe the use of 5% and one year
in all cases, those numbers are used in daily application. See Andrew C. Hruska, Note, A
Broad Market Approach to Antitrust Product Market Definition in Innovative Industries, 102
YALE L.J. 305, 323 (1992). See also Horizontal Guidelines, supra note 18, § 1.11, at
20,572.

22. See Horizontal Guidelines, supra note 18, § 1.11, at 20,572. See also United States
v. E.I. du Pont du Nemours & Co., 351 U.S. 377, 400 (1956) ("If a slight decrease in the
price of cellophane causes a considerable number of customers for other flexible wrappings
switch to cellophane, it would be an indication that a high cross-elasticity of demand
exists between them; that the products compete in the same market.").

23. This Article will refer to this test as the Five Percent Question. When asking the
Five Percent Question, the price used must be the price that would be charged in a
competitive market, free of regulation, or "coordinated interaction." Horizontal Guidelines,
supra note 18, § 1.11, at 20,573. In the cellular industry, there has been some price
regulation and many structural and historical incentives to coordinated interaction. See infra
nn. 161-64.

24. See, e.g., Hruska, supra note 21, at 308 n.17, 313 n.44 ; Gina M. Killian, Note,
Bank Mergers and the Department of Justice's Horizontal Merger Guidelines: A Critique
disagreement about the relevant market in bank mergers between the Department of Justice,
which finds relatively narrow markets, and federal banking regulators, who find relatively
broad markets).

25. Even if the merging companies had data on how a 5% price increase would affect
sales, the application of the Horizontal Guidelines's test requires a simultaneous and
identical price increase by all their competitors. Such a chain of events is extremely
unlikely. Competitors would also have to make their own sales results available to the
merging parties and the FCC.
still yield only a hypothetical answer.\textsuperscript{26}

The FCC is not required to make a decision between the Supreme Court's "reasonable interchangeability" test and the \textit{Horizontal Guidelines}' Five Percent Question. However, the FCC has consistently used the Supreme Court's test of reasonable interchangeability.\textsuperscript{27} Therefore, this Article will assume that the Commission will continue to rely primarily on the Supreme Court's "reasonable interchangeability" test for defining product markets. The definition of the product market is often the single decisive issue in merger cases—and, in the context of the Commission, competitive analyses of mergers. Therefore, great attention may be given to defining product markets in mobile services merger cases. The following subsection describes the leading candidates for inclusion in that market.

2. Mobile Services

If both parties to a mobile services merger provide a particular service, then that service will certainly be in the product market. Defining this service provides the starting point in determining the product market. The next step is to ask what other services are reasonably interchangeable and, therefore, also belong in that product market. The following is a description of all the services which, as of the time of publication, might belong in the product market in a mobile services merger.\textsuperscript{28} Each

\footnotesize
\begin{itemize}
\item \textsuperscript{26} The Author knows of no merger litigation in the FCC in which the results of such a survey have been introduced into evidence.
\item \textsuperscript{27} Some Commission decisions have referred to the \textit{Horizontal Guidelines}' test, but have not applied it. In this respect, the Commission is consistent with reported court decisions in merger cases, not one of which has defined a product market by using the Five Percent Question exclusively. \textit{See}, \textit{e.g.}, Craig O. McCaw, Memorandum Opinion and Order, 9 FCC Rcd. 5836, para. 10 (1994); BAMS-NYNEX, \textit{Order}, 77 Rad. Reg. 2d (P & F) 1487, para. 17 (1995).
\item \textsuperscript{28} The following descriptions and some other parts of this Article draw heavily from, and sometimes paraphrase, the Commission's first annual report to Congress about competition in commercial mobile radio services (CMRS). \textit{In re Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993}, \textit{First Report}, 10 FCC Rcd. 8844 (1995) [hereinafter \textit{CMRS First Annual Report}]. For another detailed description of the various mobile radio services in the United States, see NAT'L TELECOMM. AND INFORMATION ADMIN., U.S. DEP'T OF COMMERCE, PUB. NO. 88-21, CHARTING THE COURSE FOR A NEW CENTURY 283-99 (1988).
\item CMRS is a category created by Congress to encompass all mobile telecommunications services that are provided for profit and make interconnected service available to the public (or to such classes of eligible users as to be effectively available to a substantial portion of the public, as specified by the FCC). \textit{See} 47 U.S.C. § 332 (c)(1) (1994); 47 C.F.R. § 20.3 (1995); \textit{In re Implementation of Sections 3(n) and 332 of the Communications Act, Second Report and Order}, 9 FCC Rcd. 1411, paras. 39-70 (1994) [hereinafter \textit{CMRS Second Report and Order}]. CMRS providers consist of cellular, interconnected specialized mobile radio (SMR), paging, air-ground, satellite-based, maritime, broadband and narrowband PCS
\end{itemize}
description focuses on those facts which are most relevant to the services inclusion vel non in the relevant product market under both the “reasonable interchangeability” test and the Five Percent Question.

a. **Cellular Mobile Telephone Service**

Cellular service consists of simultaneous two-way voice communications with functions and privacy that are virtually identical to home and office telephone service via a mobile telephone. Originally, the service was almost entirely in vehicles, but portable phones now account for one-half of all sales—a share that is expected to grow. The Commission licenses only two cellular systems per area. Each system uses 25 MHz of spectrum.

Cellular service has been in existence for more than thirteen years growing at the astounding rate of 50 percent per year. It now has approximately 24 million customers. In most markets, the two systems have roughly the same market share. A typical cellular customer’s monthly bill is sixty dollars. Evidence shows that some cellular carriers, especially those in major cities, are earning rates of return vastly higher than a competitive market would allow. Recently, however, cellular charges have begun to decline, and features have begun to increase—a trend widely attributed to cellular carriers’ anticipation of competition from PCS.

Except in a few rural areas where only one license has been sought, there

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systems, and interconnected private Business Radio systems. Id. para. 139. Congress also created, and the Commission defined, another category called private mobile radio systems (PMRS), which includes all mobile radio communications systems that are not CMRS. See 47 U.S.C. § 332 (c)(2) (1994); 47 C.F.R. §§ 20.3, 20.9 (1994).

29. Each service described in this subsection as being “voice” or “telephone” service is also capable of data and facsimile applications. For brevity’s sake, however, only “voice” or “telephone” service will be mentioned. For the same reason, the word “telephone” should be understood to include terminal equipment for nonvoice uses.

30. For a discussion on the size of these areas, see infra p. 277. CMRS Second Report and Order includes cellular “resellers” within the definition of CMRS. Resellers buy cellular service in bulk from one or both system operators and resell it to consumers, thus, competing with system operators at the retail or “street” level. Except in a few states where state regulators have protected them to varying degrees, cellular resellers have little or no competitive significance. CMRS Second Report and Order, 9 FCC Rcd. para. 37.

31. CMRS First Annual Report, 10 FCC Rcd. Tables 9-11. These higher earnings are expected in a duopoly in which there is ever growing demand and absolute barriers to entry exist. “[T]he Commission has previously acknowledged that, while competition in the provision of cellular services exists, the record does not support a conclusion that cellular services are fully competitive.” CMRS Second Report and Order, 9 FCC Rcd. para. 138. See also CMRS First Annual Report, 10 FCC Rcd. para. 4.

32. See infra p. 272.
is no room for entry by new providers of cellular service.33

b. Specialized Mobile Radio Systems

Specialized Mobile Radio Systems (SMRs) provide "dispatch" service, a two-way voice communications system for business vehicles (e.g., taxicabs, delivery trucks) that talk with each other and a central dispatcher.34 SMR terminals are not as compact as cellular ones and, therefore, are almost always limited to vehicles. However, some portable units do exist and are expected to become more common. For over a decade, SMRs have been authorized to connect the public switched telecommunications network (PSTN), which enables them to offer telephone service that is functionally equivalent to cellular service. Thus, the FCC has found that cellular and interconnected SMRs are now competitive with each other, and the competition between them is likely to grow.35 In actual practice, however, SMRs appear not to have engaged in direct, visible competition with cellular carriers.36 At the end of 1993, approximately 1.8 million vehicles were served by SMR systems. A typical SMR customer pays fifteen dollars per month for dispatch service and fifty dollars more for interconnection to the PSTN. Thus, the average SMR customer who obtains interconnection to the PSTN receives a monthly bill equivalent to that received by the average customer of cellular service.

Unlike cellular systems, SMRs have no Commission-ordained numerical limit per area and no fixed number of MHz per system. The

34. The primary use of SMRs is for voice communication, but some SMRs are devoted primarily to data communications, including facsimile.
35. In re Implementation of Sections 3(n) and 332 of the Communications Act, Third Report and Order, 9 FCC Rcd. 7988, paras. 73, 261-62 (1994) [hereinafter CMRS Third Report and Order].
36. See CMRS Second Report and Order, 9 FCC Rcd. paras. 141-43 ("Although interconnected SMRs may . . . be considered in competition with cellular carriers, [they] have a small share of the mobile telephone business and do not exercise market power."). "Market power is the power to force a purchaser to do something that he would not do in a competitive market . . . . It has been defined as the ability of a single seller to raise price and restrict output." Eastman Kodak Co. v. Image Technical Services, Inc., 504 U.S. 451, 464 (1992) (quotation marks and citations omitted). See also Horizontal Guidelines, § 0.1 at 20.570-71. (concluding that SMR licenses face competitive disadvantages and do not at present appear to have market power in the mobile telephone market). In markets such as mobile services, where competition is on the rise, market power might be defined negatively—the failure to lower price and increase output. See Michael H. Riordan & Steven C. Salop, Evaluating Vertical Mergers: A Post-Chicago Approach, 63 ANTITRUST L.J. 513, 539 n.63 (1995).
total amount of spectrum available for all SMRs in an area presently will be 21 MHz.\(^{37}\) The largest SMR, Nextel, began consolidating local SMRs a few years ago and at one time aspired to be the third cellular network.\(^{38}\) Recently, however, Nextel lowered its sights to serving "mobile working groups" with an innovative, "bundled" offering of telephone, dispatch, and paging service.\(^{39}\) Some frequencies allocated for SMRs are still available, even in urban areas.\(^{40}\) Dispatch communications also occur on private and federal government systems, which are discussed below.

c. Paging Service

Paging service consists primarily of a small portable receiver that emits a beep, vibrates, or displays a telephone number on a screen when someone calls the customer. In practical effect, the signal alerts the subscriber to call a phone number which replays the message that the caller left via voice mail, answering service, or other device. More sophisticated forms of paging include receiving a short message (e.g., a telephone number to call, a few words, or a voice message). There are many competing carriers in most areas, and the Commission has concluded that "the paging industry is highly competitive."\(^{41}\)

Approximately 4.5 MHz currently are used for paging service. Since the service mostly consists of momentary signals rather than conversations, this relatively small amount of spectrum now accommodates 27.3 million subscribers and could accommodate many more. Over 30 percent of cellular customers also subscribe to paging service. A typical monthly rate for paging service is between nine and seventeen dollars and depends on the service or "coverage" area and functions that the customer desires. Of the spectrum allocated to paging service, almost all is in use in major urban areas.

37. SMR frequencies are in three bands in the radio frequency spectrum. In the 800 MHz band, there are approximately 14 MHz now available for use. In the 900 MHz band, approximately 5 MHz are allocated. Some of them are in use, and the rest are expected to be available for use in 1996. In the 220 MHz band, approximately 2 MHz are allocated and are expected to be available for use in 1996. In re Amendment of Part 90 of the Comm'n's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, Second Memorandum Opinion and Order and Third Notice of Proposed Rulemaking, 60 Fed. Reg. 46,564 (FCC 1995).


40. For more concerning SMRs, see CMRS First Annual Report, 10 FCC Rcd. paras. 35-39.

41. CMRS Second Report and Order, 9 FCC Rcd. para. 140.
areas. However, spectrum allocated to cellular service and subcarriers on some television and FM radio stations may also be used for paging service. This provides additional capacity for entry by new competitors.\(^{42}\)

d. **Air-Ground Service**

Air-ground service consists of telephone service on airplanes. In its principal form, it allows calls to be placed from commercial planes, but not to them. A call costs approximately one and a half dollars per minute regardless of the distance between the aircraft and the point in the United States called. The operation of cellular terminals on airplanes in-flight is forbidden for safety reasons, which greatly reduces possible competition between cellular service and air-ground service.\(^{43}\) Approximately 4.5 MHz are assigned to all types of air-ground service. There are three competing providers of air-ground service, none of which dominates. Licenses for three more carriers are available for issuance by the FCC, so there is room for entry by new carriers.\(^ {44}\)

e. **Satellite Systems for Mobile Communications**

Several mobile satellite systems provide mobile telephone service in the United States. Telephones that use satellite-based systems are so large they require a car or a backpack to transport them, and charges are several times higher than those for cellular service. The present satellite-based service is only marketed to, and attractive in, extremely rural areas and, therefore, is not considered reasonably interchangeable with other forms of mobile telephone service.\(^{45}\) Interchangeable satellite systems are expected in several years.\(^{46}\)

f. **Maritime Services**

Telephone services to ships and fixed offshore installations such as oil
rigs are provided by stations on land—public coast stations—and by satellites other than those just mentioned. Public coast stations provide service in a small area, typically up to thirty miles from the shore. The satellites have regional or national coverage. Some public coast stations compete with each other; satellites compete with all of them.\textsuperscript{47} Public coast stations use approximately 15 MHz of spectrum, and satellites use 19 MHz of spectrum, for a total of almost 34 MHz. While these services are necessary for the protection of life and property on the water, much of their actual use is for business and personal communications. They are thought to be competitive with cellular service in coastal harbors and on other popular recreational bodies of water, where vessels already have telephones that use public coast stations and cellular customers may take their cellular phones on board.\textsuperscript{48}

\textbf{g. Personal Communications Service}

The Commission has allocated the relatively large amount of 153 MHz of spectrum for PCS and has divided it into three categories: broadband, narrowband, and unlicensed. The Commission intends PCS to inject significant new competition into mobile services.

1. Broadband PCS

In contrast to the systems and services described above, broadband PCS allocations may be used for any mobile service—telephone, dispatch, data, paging, and/or video, for example.\textsuperscript{49} This flexible definition is far less regulatory than the Commission’s traditional approach to mobile services and makes broadband PCS something of a “wild card” in the marketplace. Broadband PCS has an allocation of 120 MHz, which will be licensed by auction in six blocks, three of 30 MHz each and three of 10 MHz each. However, service to most of the country is not expected until 1996 at the earliest. The principal initial application of broadband PCS will likely be for mobile telephone service.\textsuperscript{50} Broadband PCS will make


\textsuperscript{48} For more concerning maritime services, see \textit{CMRS First Annual Report}, 10 FCC Rcd. para. 44.

\textsuperscript{49} See, e.g., \textit{In re Implementation of Section 309(j) of the Communications Act—Competitive Bidding, Notice of Proposed Rule Making}, 8 FCC Rcd. 7635, para. 116 (1993) (affirming earlier definition of PCS as a “wide array of mobile, portable and ancillary communications services to individuals and businesses”).

\textsuperscript{50} \textit{FCC Plans Monthly Sales for IVDS, SMR, MMDS and 10-MHz PCS Spectrum}, \textit{COMM. DAILY}, June 6, 1995, at 1,1 (“CTIA Pres. Thomas Wheeler said PCS is ‘just more
possible the entry of three to six new competitors in the areas of existing cellular carriers, SMRs, and all other mobile service providers. Opinions about the future success of broadband PCS differ.

2. Narrowband PCS

Narrowband PCS received an allocation of 3 MHz from the Commission; these are expected to be used for sophisticated forms of paging, such as two-way paging. All licenses have been issued, and service is expected to begin in 1996.

3. Unlicensed PCS

Unlicensed PCS received an allocation of 30 MHz from the Commission; 10 MHz of which is expected to be used for voice communications, and 20 MHz for data. Unlicensed PCS devices will likely consist of new cordless telephones, wireless telephone and data networks within offices.

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51. See Summary of Federal Communications Commission Presents En Banc Meeting on PCS Issues, Panels I and II (Apr. 11, 1994). Cellular carriers in an area are allowed to be licensed for one of the smaller broadband blocks thus adding 10 MHz to a cellular carrier's existing 25 MHz. See infra note 142.

52. Compare CMRS First Annual Report, 10 FCC Rcd. para. 61 ("PCS . . . is virtually certain . . . to intensify competition at all levels.") with London Calling, THE ECONOMIST, Aug. 5, 1995, at 60, 60 (disappointing initial sales for PCS in the United Kingdom); Moody's Sees Expensive Road Ahead for PCS Providers, COMM. DAILY, Mar. 24, 1995, at 7, 7 (An investment analyst estimates that "PCS services won't be widely available until 'well into the next century,' meaning cellular companies will have [an] advantage 'for a few more years and are likely to have ample time to prepare for new entrants'."); and Charles Mason, AirTouch Execs Say PCS Will Play Small Role, TELEPHONY, Apr. 18, 1994, at 12, 12 (paraphrasing the president of AirTouch, the recently divested cellular subsidiary of Pacific Bell, as saying that cellular carriers' more than ten-year head start over PCS providers is virtually insurmountable, and estimating that it will take PCS carriers seven or eight years to deploy networks as ubiquitous as cellular ones, and by that time cellular carriers will have improved their networks even further).

53. FCC Plans Monthly Sales for IVDS, SMR, MMDS and 10-MHz PCS Spectrum, supra note 50 ("Mtel Pres.-COO Bernard Puckett said studies show his paging customers are willing to pay 20-50% premiums for 2-way service and said pricing structure will be established to control early customer signups. His company already is testing 2-way service in Washington, D.C., but isn't available commercially." Id. at 2.).
and other kinds of short-range telecommunications of an internal and business nature. At present, its basic functions appear likely to be short-distance telephone calls using switchboards or the PSTN, and short-distance dispatch and paging services.54

h. Private Mobile Radio Systems

All the services described above are “common carrier” services, which are offered to the general public for a price.55 In addition, the Commission has made large frequency allocations for an array of “private” mobile communications systems, which serve the internal needs for voice and other communications of specific types of businesses and state or local government entities.56 Private systems may be interconnected with the PSTN under certain conditions, thus, allowing use for mobile telephone service.57 While many communications on these systems are very specialized (e.g., taking the temperature of railroad tracks in remote areas and reading pressure gauges in underground storage facilities), some are simply business persons engaging in telephone or dispatch conversations in ways that could occur via the common carrier services described above.58 Allocations for such systems total approximately 70 MHz. Private mobile systems existed before the first “public” ones, and today they boast approximately 15 million transmitters in use and equipment valued at up to $30 billion, which makes them comparable in size to the cellular industry. By definition, “rates” are not charged by private systems. The spectrum for

54. For more concerning PCS, see CMRS First Annual Report, 10 FCC Rcd. paras. 45-50; Telephony, COMM. DAILY, Aug. 16, 1995, at 3, 3 (unlicensed PCS system for “workers [who] are often away from their desks but need to be accessible.”).


56. Examples include communications within factories or department stores, or between the headquarters and mobile units of a police force. Private systems may provide service on a for profit basis to others.


58. CMRS Third Report and Order, 9 FCC Rcd. para. 12 ("[A]ll reclassified private mobile radio services actually compete, or have the potential to compete within a reasonable time period, with existing commercial mobile radio services."). Many businesses use a mixture of their own private systems and common carrier services, usually cellular and paging, to meet their total need for mobile telecommunications. For an example of a business whose communications needs could be met by cellular, SMR, or private systems, see CMRS First Annual Report, 10 FCC Rcd. para. 53 & n.109.
private systems is used in all urban areas; there is little vacant spectrum elsewhere.  

1. “Low End” Mobile Radio Systems

Citizens Band (CB) radios and walkie-talkies allow two-way voice communications with each other, with no privacy and within a range of up to 150 miles of each other. They are used largely for recreational purposes, but some personal and business communications occur on them. These services have a combined frequency allocation of approximately 2 MHz.

2. Federal Government Systems

The federal government uses a large amount of spectrum for its mobile communications needs, independent of the Commission’s regulatory authority. Some of the communications provided on this spectrum are similar to the services described above, and there is anecdotal evidence of some interchangeability.

3. Plain Old Telephone Service

Mobile services are interchangeable with traditional wireline local-exchange telephone service, sometimes called plain old telephone service (POTS), in the sense that both provide communications within a local area, with access to long-distance services. In practical effect, however, the interchangeability of mobile services with POTS has been minimal because of mobile systems’ relatively high prices and limited capacities.

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59. For more about private mobile radio communications services, see CMRS First Annual Report, 10 FCC Rcd. paras. 51-55; CMRS Second Report and Order, 9 FCC Rcd. paras. 71-99.

60. For more about these services, see In re Elimination of Individual Station Licenses in Radio Control Radio Services and Citizens Band Radio Service, 48 Fed. Reg. 24,884 (1983) (codified at 47 C.F.R. §§ 95.401, 95.407(6), 95.420 (1994)).

61. CMRS First Annual Report, 10 FCC Rcd. para. 61 & n.126. The federal government is also in the process of reallocating 200 MHz from government use to private-sector uses. The Commission has earmarked some of this spectrum for mobile radio services, but it is not expected to be in use for several years, and even then, the frequencies may not be useable for substitutes for the services described herein. In re Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, First Report and Order and Second Notice of Proposed Rulemaking, 77 Rad. Reg. 2d (P & F) 314 (1995).

62. This was one of the original rationales for allowing “wireline” carriers to provide mobile services. See, e.g., In re The Bell Telephone Company of Pennsylvania, Decision, 22 F.C.C.2d 1244, 1251 (1957) (For a wireline local exchange carrier to provide paging service “is a logical extension of its telephone service.”).

63. In re Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems; and Amendment of Parts 2 and 22 of the Commission’s RulesRelative to Cellular Communications Systems, Report and Order, 86 F.C.C.2d 469,
only significant interchangeability that has been detected to date is between cellular service and coin or "pay" telephones. Both are accessible to persons who are away from home or office and happen to have car or portable telephones as well. Optimists, however, believe that rates for broadband PCS and cellular services will fall low enough to be real competitors for POTS and that the former services will have enough capacity to threaten a significant amount of telephone companies' POTS revenues. The Commission has shown no desire to prevent such competition.

3. A Note about Terminal Equipment

All services described above require the use of either a telephone or another kind of "terminal equipment." Typically, the customer buys or rents a terminal from the chosen carrier. In addition, most terminals may be used for only one service (e.g., cellular or paging) and sometimes for only one carrier's service. This "bundling" of service and terminals


65. CMRS First Annual Report, 10 FCC Rcd. para. 75 n.155. See also Telephony, COMM. DAILY, July 13, 1995, at 5, 6 (PCS licensee Wirelessco "emphasized their service isn't merely competitor to cellular but also will compete with local exchange companies.

Id. at 6.)

Several other aspects of cellular service, in particular, limit its interchangeability with POTS. One is the carriers' common practice of charging cellular customers for calls they receive—a practice that is unknown in POTS and makes many cellular customers reluctant to receive calls. Cellular carriers also require each cellular telephone to have a unique telephone number and impose significant monthly charges, typically about $20, for each telephone. These practices prevent cellular service from being a practical substitute for POTS, which allows consumers to have any number of extension telephones with the same telephone number at no extra charge. The Commission has posed no obstacle to carriers changing their practices so as to offer "real" extension service. See In re Revision of Part 22 of the Commission's Rules Governing the Public Mobile Services, Report and Order, 9 FCC Rcd. 6513, para. 59 (1994), petition for reconsideration pending on other grounds.

66. The only major exception is cellular service; significant sales of telephones occur independently of the service. CMRS First Annual Report, 10 FCC Rcd. para. 25 & nn.27, 38.

67. Most SMR terminals may be used only on the system of one SMR. Broadband PCS terminals also are not required to be usable on all broadband PCS systems, and they will not likely be so. The Commission, in order to facilitate customers changing from one
creates a barrier to interservice and intercarrier competition, where for example, customers fleeing from an unjustified 5 percent price increase will probably need to scrap their existing terminals and buy new ones. In some cases, this cost could be so high as to amount to a significant barrier to interchangeability, possibly even creating a self-contained product market of "locked in" customers for one service or one carrier.68

4. The Product Market In Mobile Services Mergers

Findings about which services compete with each other on a nationwide basis may occur in the Commission's decisions regarding rulemaking proceedings. These findings are a good starting point for defining the product market for a specific merger.69 Each merger probably

68. Cf. Eastman Kodak Co. v. Image Technical Services, Inc., 504 U.S. 451 (1992); Digidyne Corp. v. Data General Corp., 734 F.2d 1336, 1341-44 (9th Cir. 1984), cert. denied, 473 U.S. 908 (1985). Whether this is true in a given case depends on the facts. A customer's need to buy a new SMR terminal for $1000 might chill interchangeability to a significant degree, but the need for a new fifty-dollar pager would cause barely a sneeze. It might be argued that carriers can minimize this by offering to buy back a customer's old terminal or discount a new one, or by compensating a new customer for contractual penalties incurred in termination of an existing carrier. However, this merely passes the chilling effect on competition from the customer to the carrier in the short term. In the long term, the carrier will recover the added cost from the customer.

69. A Commission's rule making can reflect massive factual and theoretical evidence about competition that the parties submitted to it in that proceeding. For example, in the CMRS Third Report and Order, the Commission analyzed, in order to make certain regulatory classifications, whether various mobile radio services were "substantially similar" to each other. CMRS Third Report and Order, 9 FCC Rcd. paras. 22-79. Such evidence, as a practical matter, will not be gathered in an adjudicatory merger proceeding before the Commission. In a merger proceeding, however, the Commission may use evidence and findings from a prior rule making in defining product and geographic markets. See, e.g., Craig O. McCaw, Memorandum and Order, 9 FCC Rcd. 5836, para. 148 & n.35 (1994), following In re Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations, Fourth Report and Order, 95 F.C.C.2d 554, para. 13, at 562-63 (1983) (finding a single nationwide market for all interexchange services), rev'd on other grounds, AT&T v. FCC, 978 F.2d 727 (D.C. Cir. 1992); In re IDB Communications Group, Inc. and Southwest Communications, Inc., Memorandum Opinion
concerns a specific locality or localities, however, and defining a product market may require analysis of local peculiarities. For example, the product market in a merger of one mobile telephone service company with another may be just mobile telephone service. If, however, one of the companies also provides paging service to the same area, the product market also may include paging service. Satellite systems may be in the product market in a rural area, and maritime services also may be included in an area that includes a heavily used harbor or river. The point is simply that the facts of each merger need individual examination to lead to a valid product market for an analysis of its competitive effects.

a. Precedent

Past FCC decisions offer little guidance about product markets in mobile services mergers, principally because these decisions date from a time when each mobile service was largely a self-contained oligopoly, and regulatory barriers were still in effect between cellular, SMR, and paging services. This made for seemingly minimal competition between and among different mobile services. The parties to merger litigation before the Commission also seem not to have briefed often the issue of product markets.

Recent decisions of the Commission’s Wireless Telecommunications Bureau (WTB), however, show increasing attention to this issue and progressive refinement in findings. In a ruling concerning a merger of SMRs, the WTB first found a product market of all CMRS, a broad regulatory category consisting of almost all the mobile radio services described in the preceding subsection. In two later decisions, which concerned other mergers of SMRs, the WTB refined its analysis and found a product market of all cellular, paging, SMR—both interconnected and noninterconnected to the PSTN—services, broadband and narrowband PCS, and Business Radio—a form of private mobile radio system—that is


70. See infra notes 91-93.

71. In the only reported court decision applying § 7 of the Clayton Act to a merger of mobile service companies, there was no dispute about the product market. McCaw Personal Communications, Inc. v. Pacific Telesis Group, 645 F. Supp. 1166, 1168 n.3 (N.D. Cal. 1986).

interconnected to the PSTN.\textsuperscript{73} The WTB excluded maritime, air-ground, and satellite systems from the product market and reserved judgment about whether unlicensed PCS belonged in it.\textsuperscript{74}

The Department of Justice (DOJ), in recent analyses of mobile services mergers, has defined much narrower markets. In reviewing the acquisition of McCaw Cellular Communications by AT&T, it posited a product market consisting of only cellular service.\textsuperscript{75} In reviewing a merger of two SMRs, it posited a product market of "trunked" SMRs at 220, 800, and 900 MHz.\textsuperscript{76} In neither case did the DOJ include either paging service or PCS in the same product market with cellular or SMR service. All of these decisions by the DOJ resulted in consent decrees. So far, none has been litigated or affirmed by a court.

The relatively narrow definitions posited by the DOJ can be attributed to several factors. One factor tending to separate cellular service and SMR service is the failure of their providers to compete directly with each other and the fact that a customer switching to an SMR needs to buy a new terminal, which may cost up to $1000. The relatively low price and functionality of paging service, and the current unavailability of PCS, coupled with the Horizontal Guidelines' strict standards for including "supply substitutes" and new entrants in product markets (discussed below) account for the DOJ's exclusion of those services from the product markets.

\textbf{b. Possible Product Markets}

The regulatory classification of CMRS is a malleable lump of clay with which to start shaping a generic product market for mobile services mergers. However, significant additions, deletions, and alterations may be
necessary. Services that are classified as "private," and, therefore, are not CMRS for regulatory purposes, may be in competition with CMRS services. Furthermore, while CB radio and unlicensed PCS are not CMRS because they do not require a FCC license, and under the Communications Act only licensed services may be CMRS, their functional similarity to cellular service—providing local two-way voice communications—may place them in the same product market. Finally, federal government systems and POTS are not CMRS, but they may compete with services that are CMRS.

Several approaches to defining product markets in mobile services mergers merit consideration. Certainly, each mobile service provided by one of the merging companies belongs in a product market. As to each service, one could ask whether it is reasonably interchangeable with another service described in the preceding subsection. Alternatively, one could ask the Five Percent Question about the merging company's particular service and the other aforementioned services.

The answers to these questions might lead to several different product markets. At the narrow extreme are the recent decisions of the DOJ, finding service-specific markets, such as only cellular service or only trunked SMR service, at certain frequencies. Second, a more functional analysis of mobile services might result in a finding of three major product markets: telephone service, dispatch, and paging. The "telephone service" market would consist of cellular, a portion of interconnected SMRs' usage, and perhaps broadband PCS. Satellite, air-ground, maritime, unlicensed PCS, and private, federal government, and low-end systems would probably be considered separate "niche" markets, or a submarket of

77. See CMRS Third Report and Order, 9 FCC Red. para. 14 (the Commission noting that its decision that certain services are substantially similar "further our policy objective of ensuring a level regulatory playing field for CMRS. We note, however, that an analysis performed in the context of a different set of policy goals, or application of the same policy goals to different circumstances, may result in different conclusions regarding the extent of competition."). See also id. paras. 42, 47, at 8011-12, 8014.

78. Antitrust analysis by courts recognizes that for some users of a product, self-manufacture is a competitive alternative to buying from an outside supplier. See FTC v. Owens-Illinois, Inc., 681 F. Supp. 27, 31, 42-3, 50-1 (D.D.C. 1988) ("Interplant transfers are relevant to antitrust review since INTERNALLY consumed products must sometimes be considered in the market along with products sold externally.") (capitalization in original). Self-manufacture is comparable to buying a private radio communications system instead of subscribing to a service from a common carrier.

81. See supra notes 75-76.
the telephone service market with little or no influence over the market's "Big Three"—cellular service, interconnected SMR service and broadband PCS. The "dispatch" market would consist of some portion of interconnected SMRs, all noninterconnected SMRs, perhaps some broadband PCS, private systems, and federal government systems. The "paging" market would consist of existing paging services, narrowband PCS, and perhaps some part of private and federal government systems. 83

A third possible vision would emphasize power in the marketplace as measured by revenues, making cellular service by far the most significant service. According to this view, cellular has power over and, therefore, is in the same product market with other services, such as SMR, paging, PCS, and private systems. Collectively, however, the other services might exert some constraint over cellular, just as many Lilliputians, working together, subdued Gulliver. 84 Under such a vision, cellular service would be found in the product market of every merger, but in a merger of cellular companies the product market might consist of only cellular service.

Finally, a relatively loose application of the reasonable interchangeability test might lead to the formulation of a single product market, perhaps called "services for people on the move," 85 consisting of all the services described earlier.

Evidence exists to support multiservice product markets. The Commission has found that many mobile services now compete with each other or are expected to do so soon. 86 Furthermore, the Commission has found that convergence among previously distinct services is growing. 87

83. This functional approach—for example, grouping together all two-way voice services—is consistent with the Horizontal Guidelines, which start with a basic or core product and then look at the "next best substitute." Horizontal Guidelines, supra note 18, § 1.11, at 20,572.

84. See id. (defining product market by reference to a basic or core product and alternatives to it that, "in the aggregate," would make a price increase for the product unprofitable).

85. See CMRS Third Report and Order, 9 FCC Rcd. para. 58, where the Commission stated that "[t]he common characteristic of mobile services customers is their need to communicate electronically on a real-time basis (or virtually real-time basis) while they are "on the move.""

86. See CMRS First Annual Report, 10 FCC Rcd. para. 67. The Commission has also found that maritime service providers compete with each other and with cellular service.

87. CMRS Third Report and Order, 9 FCC Rcd. paras. 56-57, 61-62, 74-75, 77, 261-62. See also id., paras. 57-68; Telephony, COMM. DAILY, Aug. 24, 1994, at 4, 4 (Personal Communications Industry Association (PCIA) and National Association of Business and Educational Radio (NABER) are considering merging because, according to the Chairman of NABER, "the traditional lines of private and common carrier distinctions no longer exist."); Telephony, COMM. DAILY, Sept. 7, 1994, at 4, 4 (PCIA and NABER announce merger plans.); Telephony, COMM. DAILY, Sept. 22, 1994, at 8, 8-9 (Cellular Telecommu
Technology is making possible “one stop shopping” for both paging and talking, and for talking within discrete groups and with the rest of the world.\textsuperscript{88} Paging devices are starting to feature two-way capabilities, to deliver written messages, similar to short telephone calls on cellular systems and SMRs,\textsuperscript{89} and even to deliver short simulated-voice messages. Such capabilities make paging resemble a two-way voice service and are expected to proliferate in the next year.\textsuperscript{90}

The Commission favors such convergence.\textsuperscript{91} It is systematically removing regulatory barriers to convergence, and no longer erects them in the first place when it creates new services (\textit{e.g.}, PCS). Thus, today's cellular carriers are allowed to provide paging and dispatch service on their cellular frequencies,\textsuperscript{92} and dispatch systems may provide paging and telephone service.\textsuperscript{93}

However, care in finding multiservice product markets is prudent. Just as one swallow does not make a spring, the first paging terminal with voice

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\textsuperscript{88} See supra note 4 and accompanying text. Some new digital mobile telephones include pagers. CMRS Third Report and Order, 9 FCC Rcd. para. 75.

\textsuperscript{89} See supra pp. 257-260. Paging units now have the capabilities to store and recall messages, display full-text messages, and deliver voice messages. See, \textit{e.g.}, Comm. Daily Notebook, COMM. DAILY, July 21, 1995, at 8, 8 (PCS demonstration features telephone call and alphanumeric paging via one handset.); Telephony, COMM. DAILY, July 18, 1995, at 8, 8 (announcement of market test of two-way paging); SALOMON BROS., THE WIRELESS TELECOMMUNICATIONS REVIEW 20 (1994).

\textsuperscript{90} Dave Kansas, PageNet Officials Send Mixed Signals With Stock Sales, WALL ST. J., Mar. 29, 1995, at C1, C15 (A PageNet product scheduled for release in early 1996 “would permit callers to leave not only a phone number in the pager, but also a voice message.”); Naik, supra note 50, at B1, B7 (“Mobile Telecommunications Technology, Inc., of Jackson, Miss., plans to roll out inexpensive two-way paging services in 300 markets in the second half of this year, allowing users to send brief messages from one beeper to another.”).

\textsuperscript{91} The Commission has stated that “all CMRS providers should have the potential to utilize any CMRS spectrum in a manner that can adapt the nature of the service they provide to meet specific customer needs . . . . [E]ven if CMRS providers offer differing services today, if consumers desire particular services or combinations of services in the future, a variety of CMRS providers should have the opportunity to use different technological configurations to meet this customer demand in competition with other CMRS carriers.” CMRS Third Report and Order, 9 FCC Rcd. para. 69.

\textsuperscript{92} In re Amendment of Parts 2 and 22 of the Commission’s Rules to Permit Liberalization of Technology and Auxiliary Service Offerings in the Domestic Public Cellular Radio Telecommunications Service, Report and Order, 3 FCC Rcd. 7033, para. 77, at 7043 (1988). The only limitation on such paging service is that it not interfere with the cellular service. In practical effect, this is an insignificant limitation.

\textsuperscript{93} Motorola, Inc., Order, 10 FCC Rcd. 7783, paras. 17-20 (1995).
capability does not place paging and mobile telephone service in the same product market. A convincing amount of factual evidence is needed. The facts need careful analysis to distinguish between services that compete with each other and, therefore, belong in the same product market and services that merely complement each other and, thus, ought to remain in separate product markets.94

1. PCS, Uncommitted Entry, and Supply Substitution

The Commission created PCS with the express goal of becoming "competitive with existing services such as cellular, SMR, and others."95 PCS is widely expected to take the form of specific services that are functionally equivalent with, and priced no higher than, existing mobile telephone, dispatch, and paging services. If broadband PCS is as multifaceted as predicted, it may eventually blur the distinctions between mobile telephone, dispatch, and paging and may create enough new applications that there will indeed be a single product market of services for "people on the move."

Whether PCS belongs in the product market in a mobile services

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94. For example, if customers make an "either/or" decision between paging and cellular, that would support putting the two services in the same product market. But if the two services meet related but different needs of the same customers, as for example clothes-washing detergent and bleach, that would support putting them in different product markets. See generally FTC v. Procter & Gamble Co., 386 U.S. 568, 573-74 (1967) (holding liquid packaged detergents and bleach are in different product markets). Cellular and paging services can be said to compete for consumers' "mobile communications dollars" in the same sense that detergent and bleach compete for consumers' "clothes cleaning dollars." But this broad of an approach, if taken to its logical conclusion, would determine that every product in the world competes with every other product for "the consumer's dollar." Such analysis is too sweeping to be useful for defining product markets and may be avoided by the Five Percent Question.

Some people use several mobile services simultaneously. As noted above, over 30% of cellular subscribers also subscribe to paging service and many businesses use a combination of common carrier services and private systems. See supra p. 258. Taxi drivers and police often have cellular service, dispatch service and a CB radio in their vehicles. These facts, however, may not show competition among the services. Perhaps the services are merely complimentary to each other, as in the case of clothes-washing detergent and bleach, meeting related but different needs. The same question will likely be posed about mobile services and POTS. The first widespread use of mobile services in the home, for example, may be for uses that POTS does not now perform, such as baby monitoring, instead of as a direct substitute for existing POTS uses. See CS FIRST BOSTON, PCS: A CRITICAL PIECE OF THE COMMUNICATIONS PUZZLE 20-21 (1995). It is unclear, without more, whether mobile services and POTS will be competitors or mere complements for each other.

merger is a potentially contentious issue. The question whether existing services like cellular and SMR belong in the same product market focuses on functions or price-elasticities, whereas the question about PCS focuses on time. As of the time of publication, broadband PCS is available only in the Baltimore-Washington area. Narrowband PCS is available in only a few regions and localities, and while the frequencies for unlicensed PCS are available, they do not appear to be in much use. Widespread availability of broadband and narrowband PCS, even in large cities, is not expected until late 1996 or into 1997.96

There is evidence, however, that the inevitability of broadband PCS is having a significant impact on existing services. For example, cellular prices are declining; features and functions are increasing; and cellular carriers are offering options that resemble the expected form of broadband PCS.97 These trends are probably attributable to the cellular carriers' knowledge that soon they will face several new competitors in the form of several broadband PCS licensees.98

These facts may satisfy the legal standards for including PCS in the product market for a current mobile services merger. Under the reasonable interchangeability standard, product markets may include companies or

96. State Activities, COMM. DAILY, June 9, 1995, at 7, 7 (The first broadband PCS service, provided by the winner of an early "pioneer" license from the Commission, began service in the Baltimore-Washington, D.C. area in late 1995.); Telephony, COMM. DAILY, June 7, 1995, at 8, 9 ("PCS PrimeCo alliance of 3 RHCs and AirTouch . . . said suppliers must meet PrimeCo deadline of providing service by end of next year.").

97. See Naik, supra note 50, at B1, B7 ("GTE . . . already offers rudimentary follow-me service to residential customers on a combination of local telephone and cellular networks. Its Tele-Go service is now used by more than 120,000 subscribers in 15 cities. Customers pay up to $25 a month for unlimited use of a small cordless phone at home and a per-minute fee of 20c to 30c for calls made while traveling with the device."); Mike Mills, Wireless: The Next Generation, WASH. POST, Feb. 20, 1995, 1, 14-15; Telephony, COMM. DAILY, Mar. 9, 1995, at B1-B2 (NYNEX cellular company "said it will begin offering PCS-type services in metro N.Y. under Geographic Option Plan trademark, giving customers greater flexibility in setting rates and using service. Monthly charge is $24.99, with additional min. at 29 cents in home county, 99 cents elsewhere."); Mary E. Thyfault, Bell Companies Get Personal—Bell Atlantic, NYNEX Plan to Merge Their Mobile and Cellular Divisions as PCS Players Continue Consolidation, INFORMATIONWEEK, July 18, 1994, at 33 (Bell Atlantic announces a low-priced, low-range offering on its Annapolis, Philadelphia, and Pittsburgh cellular systems, intended to resemble what PCS offerings will be like.).

98. Cisco Pres. Sees Fundamental Shift in Telecommunication in Next 5 Years, COMM. DAILY, Mar. 21, 1995, at 1, 1-2 ("Northern Telecom [director]-cellular product marketing, said pressure from PCS industry is forcing cellular industry to pay more attention to customers and less to technology."). See also CMRS First Annual Report, 10 FCC Rcd. paras. 23-24. But see FCC Plans Monthly Sales for IVDS, SMR, MMDS and 10-MHz PCS Spectrum, supra note 50, at 2 ("Bell Atlantic/Nynex Cellular [Vice-President] Gary Schulman . . . said cellular prices were coming down regardless of new entrants.").
services that will soon be in competition with those that are in the product market now. The case law uses the term "supply substitution" to describe the ability of a company that does not now provide a service, but could by retooling its production facilities and could start to provide the service with reasonable promptness and at modest cost. Such companies may be included in the product market with companies that provide the service now.

The Horizontal Guidelines describe the same general idea by the term "uncommitted entrant" and apply stricter standards than existing case law for the speed and ease with which the new company must start providing the service. The Horizontal Guidelines define an uncommitted entrant as a company that would—not just could—enter the product market without incurring significant sunk costs within one year of a small but significant and nontransitory price increase. The company also must be able to exit the market just as easily. In other words, the company must be uncommitted to the market. The Horizontal Guidelines also appear to include in the relevant market "firms which have committed to entering the market prior to the merger."

Broadband and narrowband PCS may now satisfy these standards, or at least the principles underlying them. While starting to provide those

99. SBC Comm., Inc. v. FCC, 56 F.3d 1484, 1493-94 (D.C. Cir. 1995) and cases cited supra note 6; Rothery Storage and Van Co. v. Atlas Van Lines, Inc., 792 F.2d 210, 218 (D.C. Cir. 1986); Equifax, Inc. v. FTC, 618 F.2d 63, 66 (9th Cir. 1980); FTC v. Elders Grain, Inc., 868 F.2d 901, 907 (7th Cir. 1989). Cf. Horizontal Guidelines, supra note 18, § 1.321, paras. 20,573-74 n.14 ("If production substitution among a group of products is nearly universal among the firms selling one or more of those products, . . . [the Department of Justice] may use an aggregate description of those markets as a matter of convenience.").

A typical period is two years. See FTC v. Owens-Illinois, Inc., 681 F. Supp. 27, 37 & n.23 (concerning the extensive present and future intermaterial competition in the glass and other packaging industries, . . . [a]n important, but undisputed, assumption of the economic analysis in this case is that the relevant time frame within which to view elasticity is approximately two years. In other words, conversions by purchasers between types of containers must be feasible within this time frame for demand and supply to be considered elastic.").

100. Horizontal Guidelines, supra note 18, § 1.0, para. 20,572; § 1.32, paras. 20,573-3 to -4.

101. Sunk costs are, generally, costs that cannot be recovered, such as capital spending for unique equipment and expenses such as advertising. See also CARLTON & PERLOFF, supra note 9, at 925.

102. Id.

103. See Horizontal Guidelines, § 3.2, paras. 20,573-10 n.27. It is unclear whether the words "prior to the merger" refer to the time of entry or to the time of commitment. The difference could be significant in the case of broadband PCS, whose future providers are now committed to entering the mobile services market, but will not enter it for a year on a significant scale.
services is by no means fast or inexpensive, companies have already incurred billions of dollars of sunk expense for them and have committed billions more. There is no doubt that broadband and narrowband PCS will be provided on a significant scale by 1997, even without an increase in the price of existing mobile services. It requires only a sensible extension of the principles of supply substitution and uncommitted entry to apply them to companies that are firmly committed to entering a market, despite expense and other barriers. The effect that broadband PCS is having on cellular prices and quality adds factual support to this proposition. It follows, as in the ordinary case of supply substitution and uncommitted entry, that broadband and narrowband PCS have overcome obstacles to entry and that the effect of broadband PCS on competition is felt. Therefore, broadband and narrowband PCS may belong in a relevant market for mobile services in a current merger.

c. A Note about Evidence

In applying either the reasonable interchangeability test or the Five Percent Question facts about customers' behavior are generally the most probative evidence. Since the process of market definition is fact-intensive, counsel in any case where the product market is likely to be a disputed issue should present factual evidence in support of asserted product market definitions. Commission findings in past rule makings may not constitute such evidence. Those findings also may be out-of-date or may omit the unique attributes of the companies and areas involved in a particular merger.

Records of an increase or decrease in the number of customers or of what actually happened when a price change occurred would be most probative. For example, a party claiming that cellular and interconnected SMR services are in the same product market could produce records of a cellular company showing that it, to a significant degree, won or lost

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105. Future competitors who do not pass either the case law or the Horizontal Guidelines' test for supply substitution may be considered later in the analysis of a merger, under the term "Ease of Entry." See infra at 297-99.

106. For evidence that is acceptable under the Horizontal Guidelines, see Horizontal Guidelines, supra note 18, § 1.11, paras. 20,572-73.

customers to interconnected SMRs. Less probative, but still useful, would be the results of a survey that asked existing customers the Five Percent Question: What would you do if all providers of your service raised prices by 5 percent? Still less probative evidence could be expert—factual and theoretical—and anecdotal testimony.

d. Conclusion

At the end of the analysis outlined above, at least one product market consisting of one or more mobile services, and perhaps some POTS, has been defined. Product market analysis is laborious in part because it is often the single decisive issue in merger cases. Once it is finished, however, the definitional task then changes focus, from function and price-elasticity to the geographic areas within which the services in the product market compete.

B. The Geographic Market

1. Generally

In each merger, the geographic market also needs defining. As with product markets, a merger may involve more than one geographic market. A geographic market is the area of effective competition—the area in which buyers can practically turn for alternative sources of supply or in which there are sellers who could act to restrain the prices charged to those buyers. In the United States v. Philadelphia Nat'l Bank, the Supreme

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108. Similarly probative evidence from the cellular company's regularly kept business records would be its documents about planning, marketing, or sales showing that the company considered interconnected SMRs to be a serious source of competition. Conversely, the absence of any mention of SMRs in a cellular company's files might be evidence that the cellular company did not consider itself to be competing with SMRs.

109. Examples of anecdotal evidence about whether two services are in the same product market could consist of advertisements for both of them appearing in the same narrowly focused trade journals; comparative advertising by providers of one of the services; the presence of providers of both services at the same trade shows or gatherings of customers; and articles, speeches, and customer declarations that were not prepared in anticipation of litigation.


Court stated that the most important criterion is the geographic structure of supplier-customer relations.\textsuperscript{112} "[T]he area of effective competition in the known line of commerce must be charted by careful selection of the market area in which the seller operates, and to which the purchaser can practically turn for supplies."\textsuperscript{113}

The \textit{Horizontal Guidelines} define a geographic market similarly: "a region such that a hypothetical monopolist that was the only present or future producer of the relevant product at locations in that region would profitably impose at least a 'small but significant and nontransitory' increase in price, holding constant the terms of sale for all products produced elsewhere."\textsuperscript{114} Thus, as with product markets, the judicial definitions of geographic markets are multifaceted and subjective, and the \textit{Horizontal Guidelines} focus exclusively on price and pose a hypothetical question for which direct evidence is scarce.

2. Mobile Service Coverage

Both the case law and the \textit{Horizontal Guidelines}' definitions focus on the area to which buyers can practically turn for alternative sources of supply. In the case of manufacturing, this area may be worldwide. Most mobile services, however, are manufactured close to where the customer uses them; typically at a radio tower within a few miles of the customer. For example, a customer wanting cellular service in Philadelphia can only receive service from providers in Philadelphia. That customer cannot go to Chicago or Asia, obtain service there, and then bring it back to Philadel-

\textsuperscript{112} \textit{Id.} at 357-59; accord \textit{Brown Shoe Co. v. United States}, 370 U.S. 294, 336-37 (1962). With respect to the manufacture of shoes, the Supreme Court found in \textit{Brown Shoe} that the relevant geographic market was the entire nation: "The relationships of product value, bulk, weight and consumer demand enable manufacturers to distribute their shoes on a nationwide basis, as [the parties to the merger], in fact, do. The anti-competitive effects of the merger are to be measured within this range of distribution." \textit{Id.} at 328. However, with respect to the retail sale of shoes, the Supreme Court defined smaller relevant geographic markets, as:

> those cities with a population exceeding 10,000 and their environs in which both [parties to the merger] retailed shoes through their own outlets. Such markets are large enough to include the downtown shops and suburban shopping centers in areas contiguous to the city, which are the important competitive factors, and yet are small enough to exclude stores beyond the immediate environs of the city, which are of little competitive significance.

\textit{Id.} at 339.

\textsuperscript{113} \textit{Philadelphia Nat'l Bank}, 374 U.S. at 359 (emphasis and citation omitted).

\textsuperscript{114} \textit{Horizontal Guidelines}, supra note 18, § 1.21, at 20,573. As with product markets, the \textit{Horizontal Guidelines} define a relevant geographic market differently if the producer could profitably practice price discrimination within it. If sellers could profitably discriminate against buyers in a particular area within the geographic market, the \textit{Horizontal Guidelines} may treat that area as a separate geographic market. \textit{Id.} § 1.22, at 20,573-3.
phia. Therefore, geographic markets in mobile services mergers are likely to consist of one or more coverage area(s) of the systems providing services in the product market. A brief summary of the great variances between major service coverage follows.

a. **Cellular**

The Commission initially licensed cellular systems in 734 Metropolitan or Rural Statistical Areas, each of which was specified by the Commission. In most areas, the two cellular carriers have built towers to provide coverage over the identical Commission licensed territory. Many licensees in neighboring markets have combined their systems, thus, creating single systems with metropolitan coverage. One cellular system, for example, covers the greater Philadelphia area—Philadelphia, Allentown, and Lancaster, Pennsylvania; Trenton and Princeton, New Jersey; and Wilmington, Delaware.\footnote{115}

b. **SMRs**

Traditionally, a SMR's coverage was a twenty- to thirty-mile radius around each SMR tower, and the tower's location was chosen by the SMR. As a result, original SMR coverage areas, unlike cellular ones, were small and often partially overlapped. Now, however, many SMRs are consolidating into a few national chains, which will offer local, regional, and even national coverage; a few local systems are likely to remain as niche competitors in most markets.\footnote{116}

c. **Paging**

The coverage of a paging system may be local, metropolitan,
regional, or national depending on the license that the Commission has issued and the mergers that licensees have affected. Wide-area coverage is growing in popularity.\textsuperscript{117}

d. PCS

Broadband PCS blocks A and B will be licensed for forty-seven territories, some of which are almost the size of Texas, and the other four blocks will be licensed for 493 areas that are somewhat larger than the original cellular territories. Coverage will probably start in central cities and grow outward, which is what happened in the early years of cellular service. Of the narrowband PCS licenses, ten will be national, thirty will be regional, and more than 3500 will be for smaller areas. Unlicensed PCS will have very small coverage, similar to CB radios and cordless telephones.\textsuperscript{118}

e. Other

Air-ground and satellite systems have national coverage. Each public coast maritime station has coverage within approximately twenty-five nautical miles of each tower.\textsuperscript{119} A typical CB radio or a walkie-talkie has coverage of no more than a few miles. Private and federal government systems are a mixture of local, regional, and national coverage.

f. Contradictory Trends

There are several contradictory trends in coverage of mobile services. As existing carriers merge, wide-area licenses for PCS are issued, and satellite systems go into service, larger coverage becomes possible. This coverage is often offered to customers. At the same time and in evident anticipation of broadband PCS, cellular carriers are offering customers the option of smaller coverage for smaller charges. Finally, mobile services increasingly will be provided by large, centralized corporations, each of whose systems has the same or similar quality, pricing, features, and "look and feel."

3. Precedent

The decisions of the Commission and the DOJ concerning geographic

\textsuperscript{117} CMRS Third Report and Order, 9 FCC Rcd. para. 54.
\textsuperscript{118} CMRS First Annual Report, 10 FCC Rcd. paras. 46, 49-50.
markets show more consistency than those concerning product markets. In considering the merger of a cellular service company, McCaw, and AT&T, the Commission and the DOJ used the cellular service areas ordained by the Commission as geographic markets.\(^{120}\) In its recent decision approving the merger of the two cellular carriers, the Commission’s Wireless Telecommunications Bureau used as its geographic markets “the areas in which [either of the merging companies] provides cellular service.”\(^{121}\)

The DOJ posited the geographic market in recent SMR mergers to be “the license areas in which the FCC has authorized the provision of SMR service” and “[i]n any particular city . . . the twenty-five mile radius from city center . . . .”\(^{122}\) The Wireless Telecommunications Bureau, in its review of the same SMR mergers, accepted the DOJ’s position for the sake of argument without approving it.\(^{123}\)

4. Possible Geographic Markets

The starting point for defining a geographic market in a mobile services merger is the coverage area of each system which provides a service that is within the product market and that is operated by one of the merging companies. Each such area might be expanded to include the areas for which the merging company is licensed but is not yet serving.\(^{124}\) Moreover, each area might be further expanded to include the coverage of other services that are in the product market and that have larger geographic coverage. However, where expanded coverage is only used by a small proportion of the customers within the merging company’s area, there may

\(^{120}\) Craig O. McCaw, 9 FCC Rcd. para. 11 (finding the geographic markets to be “each Metropolitan Statistical Area (‘MSA’) or Rural Statistical Area (‘RSA’) in which McCaw offers such service”), aff’d, SBC Comm., Inc. v. FCC, 56 F.3d 1484, 1485 (D.C. Cir. 1995) (finding “the market is local because ‘the purchaser cannot, as a practical matter, turn to suppliers outside their own areas.’”) (quoting Standard Oil Co. v. United States, 337 U.S. 293, 299 n.5 (1949)); United States v. AT&T Corp., 59 Fed. Reg. 44,167 (FCC 1994) (codified at 47 C.F.R. § 73 (1994)) (finding the relevant geographic markets to be “those service areas in which the FCC has licensed cellular carriers to provide cellular service”). In most cases, McCaw had built facilities to service its entire FCC-licensed area, so that there was no real difference between its actual coverage and its FCC-licensed coverage. See supra note 69.

\(^{121}\) BAMS-NYNEX, 77 Rad. Reg. 2d (P & F) 1487, para. 18 (1995), application for review pending.


\(^{124}\) It appears that in the cases discussed above there was no significant difference between the served area and the licensed area.
be no justification for expanding the geographic market.

As a final alternative, there is case law finding that the geographic market is nationwide when a service, even a local one, is provided by centrally managed companies that plan and operate on a national basis.125 Certainly, the trend in wireless service is towards regional and national chains under central management, 126 but that is still the exception rather than the rule and is likely to remain so for several years.

Current proclamations of an emerging “national market for mobile services,” in the sense that the term “market” is used in competitive analysis, are inaccurate. For example, it is frequently said that mobile customers now demand “seamless nationwide service.”127 However, a recent WTB decision found that such talk does not imply a regional or nationwide market. Rather, it means one of two things. First, customers may want roaming, 128 which existed from the conception of cellular service.129 A second possibility is that some customers prefer a product that has a nationally recognized brand name, but that is produced and consumed in each local community. For example, a given cellular carrier’s mobile service may seem larger than another carrier’s because it has a brand name—Cellular One, for example—that is recognized by many communities all over the country. In each of those communities, however, the customer may choose from among the only two companies that offer cellular service. In such a case, the geographic market ultimately remains that community.130 Thus, the geographic market in a mobile service

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126. Each Bell cellular company covers most or all major metropolitan areas in the “home” region of its affiliated telephone companies. SMR mergers began a few years ago, grouping previously balkanized systems into regional clusters that Nextel, in turn, is now merging into national coverage. The broadband PCS auctions have so far resulted in two Bell companies—BellSouth and Southwestern Bell—filling holes in their regional cellular coverage. Three winners of the broadband PCS auctions will approach national coverage when their cellular and broadband PCS coverages are combined. They are AT&T, Wirelessco (consisting of Sprint and three cable television operators), and PCS Primeco (consisting of Bell Atlantic, NYNEX, AirTouch, and US West).
128. Roaming is what happens “when the subscriber of one CMRS provider enters the service area of another with whom the subscriber has no pre-existing service or financial relationship, and attempts either to continue an in-progress call, to receive an in-coming call or to place an out-going call.” In re Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, Second Notice of Proposed Rulemaking, 10 FCC Rcd. 10,666, para. 45 (1995).
129. In re Land Mobile Service Use of 806-960 MHz Band, Second Report and Order, 46 F.C.C.2d 752, para. 21 (1974) (advocating “[nationwide] compatibility. All systems shall be designed for nationwide compatibility for roamer operation.” Id. app. C, § IV(f).).
merger is likely to be each merging company's coverage area or its larger licensed territory, until a regional or national market emerges.

After the geographic market for a merger has been defined, the definitions of both the product market and the geographic market are combined into a statement of the "relevant" market for purposes of analyzing the competitive effects of the merger, such as mobile telephone service in the Philadelphia metropolitan area.

C. Horizontal, Vertical, or Conglomerate?

The final definitional question about a merger asks whether the merger is horizontal, vertical, conglomerate, or a combination. The answer to this question will influence the depth of scrutiny given to the merger's competitive effects because each type of merger is generally believed to pose a different amount of risk to competition. Thankfully, after the rigors of defining product and geographic markets, classifying a merger as horizontal, vertical, or conglomerate should be self-evident simply from looking at the names given to the product markets. The three categories of mergers are not mutually exclusive. A single merger may be horizontal in some respects and vertical in others, or it may combine aspects of the three categories in some other way. 131

A horizontal merger is "between companies performing similar functions in the production or sale of comparable goods or services." 132 For example, a merger of two cellular companies is a horizontal merger. If a cellular company and a paging company merge, and both those services are in the same product market, then it is also a horizontal merger. Horizontal mergers are thought to have the greatest potential anticompetitive effects because they are most likely to eliminate a competitor from the relevant market.

A vertical merger is "the acquisition of one company which buys the product sold by the acquiring company or which sells the product bought by the acquiring company." 133 An example of a vertical merger is when

131 For example, the AT&T-McCaw merger was horizontal in that both companies provided interstate interexchange service; vertical in the sense that AT&T manufactured cellular networks for sale to McCaw; and conglomerate in that McCaw owned some interests in broadcasting, which was a business with no close relationship to AT&T's lines of business. See Craig O. McCaw, Memorandum Opinion and Order, 9 FCC Rcd. 5836 (1994).
133 United States v. International Tel. & Tel. Corp., 306 F. Supp. 766, 774 (D. Conn. 1969). In such vertical premerger relationships, the selling company is referred to as the "upstream" company or the "input supplier," and the buying company is referred to as the "downstream" company or the "output supplier."
a company that provides cellular service merges with a company that
manufactures equipment used in providing cellular service. The McCaw-
AT&T merger was such an example. In vertical mergers, anticompetitive
impact is usually less than in horizontal mergers because the parties are not
competitors.

A conglomerate merger is neither horizontal nor vertical. 134 A
merger of a cellular service company and a manufacturer of dog food is an
example. Conglomerate mergers usually pose no significant potential
anticompetitive effects and, accordingly, this Article will give them
minimal attention. 135

II. THE MERITS OF THE MERGER

In each relevant market, the competitive effects of the merger must
be predicted, and the resulting balance between pro- and anti-competitive
effects must be determined to see whether the merger will, on the whole,
increase, decrease, or have no net effect on competition. 136 Because
horizontal mergers are thought to pose the greatest risk of anticompetitive
effects, they are discussed first and in greatest detail.

A. Analysis of Horizontal Mergers

For horizontal mergers, the analytical task can be broken into two
parts. 137 First, compare the relevant market's degree of concentration,
deﬁned as the amount of power held by a small number of competitors,
before and after the merger. Second, examine the possibilities for
increasing or decreasing certain speciﬁc kinds of competitive activity. The
first part is commonly done by objective measurements. The second
requires a more individualized analysis of conditions in the relevant market

134. Id.
135. Conglomerate mergers are thought to pose no danger to competition because the
merging companies are not competitors, so their merger will not aggravate any market
power that either of them has, absent exceptional circumstances. The most common
exceptional circumstance is that industry conditions will change, placing the companies’
products in competition with each other or making one merging company’s product an input
of the other’s. Absent such a prospect, even if the merged company has market power over
one product, the lack of relationship between the two products will give the merged
company no leverage to make its customers buy its other product.
136. No relevant market can be ignored. For a case where the Commission was overly
concerned with one product market (cellular) and ignored another (paging), leading to its
reversal by the Court of Appeals, see Celcom Comm. Corp. v. FCC, 789 F.2d 67, 71
137. If the parties to the merger provide the same product in different geographic
markets, this analytical step may be skipped. The merger should be analyzed as a
geographic extension merger. See infra at p. 300-301.
and the capabilities and incentives of the competitors in it.138

1. Initial Analysis by Objective Measurements

The Supreme Court stated in United States v. Philadelphia Nat'l Bank139 that

"a merger which produces a firm controlling an undue percent-
age share of the relevant market, and results in a significant
increase in the concentration of firms in that market, is so
inherently likely to lessen competition substantially that it must
be enjoined in the absence of evidence clearly showing that the
merger is not likely to have such anti-competitive effects."140

An accepted objective measurement of any increase in concentration in the
relevant market is the Herfindahl-Hirschman Index (HHI). To calculate the
HHI, the "market share" of each competitor in the premerger relevant
market is calculated and squared; and then, the squares are summed. The
same calculations also are made for the post-merger market. The only
change from the premerger market will be the larger market share of the
merged company. The difference between the pre- and post-merger sums
is an objective estimate of any resultant change in market concentration.

The Horizontal Guidelines provide that a post-merger HHI of under
1000 points reveals an unconcentrated market. In an unconcentrated
market, a merger is unlikely to decrease competition and ordinarily needs
no further analysis. A post-merger HHI of between 1000 and 1800 points
reveals a moderately concentrated market. In a moderately concentrated
market, a merger increasing the HHI by less than 100 points is unlikely to
decrease competition and ordinarily needs no further analysis, but a merger
increasing the HHI by 100 or more points may decrease competition and
needs further analysis. A post-merger HHI of over 1800 points reveals a
highly concentrated market. In a highly concentrated market, a merger increasing the HHI by less than 50 points is unlikely to decrease competi-
tion and ordinarily needs no further analysis, but a merger increasing the
HHI by 50 to 100 points may decrease competition and needs further
analysis. In a highly concentrated market, a merger increasing the HHI by
more than 100 points will be presumed to decrease competition absent other

138. The first part is unnecessary in two types of horizontal mergers, which are called
product extension mergers and geographic extension mergers. See infra at p. 300-301.
140. Id. at 363. See also United States v. Grinnell Corp., 384 U.S. 563, 571 (1965)
(explaining that ordinarily market or monopoly power may be inferred from predominant
share of the market).
proof or remedial action.141

The first step in finding the HHI for a relevant market is to list each competitor in that market. These are, at a minimum, the companies that actually provide the relevant product (for example, some form of mobile service and, perhaps, POTS) within the geographic market.142 A company that provides the product in only a small part of the geographic market should not be excluded from the list solely for this reason. The company may have a small market share, but its existence in the relevant market is a fact and should be reflected in any measurement of its competitors. Careful consideration should also be given to including companies, such as nationwide paging carriers or satellite systems, that are in the product market but whose only coverage is nationwide. Depending on the facts, it may be appropriate to include a small share of their nationwide totals in a local or regional market.

To calculate the HHI, some measurement of market share must be used for all competitors. The best measurement is that which determines the future competitive significance of competitors in the relevant market.143 Possible measurements include: numbers of current customers; numbers of recently added customers144 or some other measure of

141. Use of the HHI to measure market power has received some judicial sanction. FTC v. University Health, Inc., 938 F.2d 1206, 1211 n.12 (11th Cir. 1991); FTC v. PPG Indus., Inc., 798 F.2d 1500, 1503 (D.C. Cir. 1986); FTC v. Owens-Illinois, Inc., 681 F. Supp. 27, 34 (D.D.C. 1988). But see Zenith Elec. Corp. v. United States, 988 F.2d 1573 (Fed. Cir. 1993) (Certain HHI calculations are “of no evidentiary value” and “totally lacking in evidentiary weight.”).

142. In a state where resellers are a significant presence, they may deserve the same status as the “facilities-based” system operators. See supra note 30. “Uncommitted entrants,” discussed above, also might be listed.

143. Horizontal Guidelines, supra note 18, § 1.41, at 20,573-74.

144. Measuring by units of service sold, instead of by customers, can avoid the mistake of equating a customer with many units (e.g., a large corporation) and an individual customer with only one.
competition "at the margin"; gross revenues; net revenues; minutes of usage; population within licensed areas (POPs); and amount of spectrum, either allocated, licensed, or in use. The challenge in choosing a method of measurement is to find one that assesses future competitive significance, that is an "apples-to-apples" measurement for all companies in the relevant market, and for which numbers can be obtained without undue expense, time, or revelation of proprietary data.

Any measurement by financial data or customer numbers poses problems. First, the Commission has no established procedure for obtaining competitors' financial results and customer numbers. Doing so also is time-consuming and can be contentious. Competitors that are not parties will undoubtedly be reluctant to disclose their trade secrets in a case in which they are bystanders. In addition, an "apples-to-apples" comparison of financial data would need to reconcile data for services that are typically charged on a usage-sensitive basis (e.g., cellular), for services that are charged for on a per-month basis (e.g., paging and simple dispatch), and for services that have only an initial payment and no recurring ones (e.g., private and federal government systems, unlicensed PCS, and low-end systems). Likewise, any measurement by customer numbers would need to reflect the true size of single customers, such as major corporations, that subscribe to many units. For the next few years any revenue- or customer-based measurement also would ignore PCS, which will have few or no customers but is a real factor in the marketplace. PCS will almost triple the spectrum available for common carrier services.

Allocated spectrum as a unit of measurement lists each block of spectrum available for licensure by the Commission as a competitor and reflects capacity, which is a good measurement of long-term ability to

145. CMRS prices are not regulated, but if revenues are used as the measurement, the revenues of any service whose rates are regulated (e.g., POTS) can be altered to reflect any distorted effect. See supra note 23.
146. See, e.g., In re the Comm'n's Rules to Establish Personal Communications Services, Notice of Proposed Rule Making Tentative Decision, 7 FCC Rcd. 5676, para. 57 n.41 (1992). The defect of POPs is that they measure potential customers or competitive power, not actual customers or competitive power. Thus, POPs equate entrenched providers and infant ones, although the former may have more competitive power than the latter.
147. See Craig O. McCaw, Memorandum Opinion and Order, 9 FCC Rcd. 5836 (1994). Trade associations and securities analyses often publish types of financial results and customer numbers. They do not do so systematically, however, and it would be an extraordinary coincidence if they did so in conformity with the product and geographic markets for a particular merger.
148. Customer numbers would also show cellular and paging services, which have roughly the same number of customers, as equally powerful in the market. See supra pp. 256, 258. Few industry observers would deny, however, that cellular service, with its far greater capabilities and higher prices, has more competitive significance than paging.
compete.\textsuperscript{149} Allocated spectrum also has the advantage of being reasonably accessible and indisputable.\textsuperscript{150} Finally, using allocated as opposed to licensed spectrum reflects uncommitted entrants and supply substitution.\textsuperscript{151}

Use of spectrum as a measurement may require complex refinements. First, a measurement of "raw" spectrum gives equal weight to a channel\textsuperscript{152} allocated to cellular service, which can carry one customer's conversation, and to a channel allocated to paging service, which can transmit momentary signals for thousands of customers.\textsuperscript{153} This may overstate the competitive power of relatively inefficient technologies, such as cellular, and understate that of relatively efficient technologies, such as paging.\textsuperscript{154} To remedy any such imbalances, spectrum could be translated

\textsuperscript{149} Courts have held different kinds of capacity to be valid measurements of market shares and market power. See, e.g., United States v. General Dynamics Corp., 415 U.S. 486, 501 (1973) (Uncommitted capacity was measure of market power in business (coal mining) where most sales were made pursuant to long-term contracts that had absorbed most of the total capacity of the business.); Ball Memorial Hosp., Inc. v. Mutual Hosp. Ins., Inc., 784 F.2d 1325, 1335 (7th Cir. 1986) (Market power may be measured by "ownership of the productive assets in the business."). See also 1 ABA, ANTITRUST LAW DEVELOPMENTS 300 & nn.139-41 (3rd ed. 1992) (citing cases where capacity is used as the measure of market power). The Commission has recognized the importance of capacity in measuring market power. In adopting its CMRS "spectrum caps" that limit the amount of spectrum that any CMRS licensee may control, the Commission noted that "[t]he purpose of the cap is to prevent licensees from artificially withhold capacity from the market. The aggregation of spectrum measures the ability to withhold capacity from the market." CMRS Third Report and Order, 9 FCC Rcd. para. 258.

\textsuperscript{150} The First Annual Report, describing various mobile radio services, states the spectrum allocations available for most of those services. A difficulty in using spectrum as the measurement in HHI calculations arises when listing competitors. See supra note 141. While it is easily determinable, for example, that a 50 MHz cellular allocation of spectrum should be divided between two competitors, each with 25 MHz, it is not clear whether or how to make such a division for services such as unlicensed PCS and low-end services.

\textsuperscript{151} The Horizontal Guidelines include uncommitted entrants as present competitors but do not specify how their market shares are to be measured. Horizontal Guidelines, supra note 18, \S 1.32, at 20,573-3. The Horizontal Guidelines do state, however, that one way to measure market share is "capacity currently devoted to the relevant market together with that which likely would be devoted to the relevant market in response to a 'small but significant and nontransitory' price increase." Id. \S 1.41, at 20,573-4.

\textsuperscript{152} A channel is a man-defined part of spectrum that is used for carrying a communication.

\textsuperscript{153} Fifty cellular MHz and 4.5 paging MHz each carry approximately the same number of customers. CMRS First Annual Report, 10 FCC Rcd. paras. 13, 29.

\textsuperscript{154} In the same vein, it is expected that broadband PCS systems will carry many more calls per MHz than cellular systems. See, e.g., STANLEY M. BESEN & WILLIAM B. BURNETT, CHARLES RIVER ASSOC., AN ANTITRUST ANALYSIS OF THE MARKET FOR MOBILE TELECOMMUNICATIONS SERVICES 35-40 (1993). See also DR. GEORGE A. KEYWORTH ET AL., PROGRESS & FREEDOM FOUNDATION, THE TELECOM REVOLUTION—AN AMERICAN OPPORTUNITY 12-13 (1995); CS FIRST BOSTON, supra note 94, at 19,
into channels that are actually used or into some other measurement that reflects how different services and technologies use the same amount of spectrum. Another necessary refinement would reduce the allocations to nationwide services, such as satellite-based systems and nationwide paging, to reflect how much of their nationwide allocation is devoted to the particular geographic market that is involved in the merger.

a. An Example of the HHI in a Horizontal Mobile Services Merger

The following is an illustration of an HHI for the merger of two PCS carriers, one with a 30 MHz license and the other with a 10 MHz license. In this illustration, the following assumptions are made:

(1) the judicial test of reasonable interchangeability rather than the Five Percent Question is the standard for defining the product market;
(2) the product market is two-way voice service, which consists of cellular, interconnected SMRs, and arbitrarily chosen small amounts of maritime, interconnected private radio systems, low-end services, federal government systems, and POTS;
(3) broadband PCS is included in the product market;
(4) there are no submarkets;
(5) allocated spectrum is the measurement of competitive significance in the market, with no modifications to reflect efficient and inefficient uses or technologies;
(6) the cost of changing out-terminal equipment is not a significant barrier to interservice or intercarrier competition;
(7) each cellular carrier has acquired one of the 10 MHz broadband PCS licenses, but the third remains independent and is the target of the merger in question;
(8) of all the SMRs in the geographic market, only two are interconnected, one large and one small;
(9) resellers have no competitive significance in the geographic

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32-33. 155. Such a merger is permitted by the Commission's spectrum caps. See supra note 141.

156. There are methods other than the arbitrary assignment of market shares to show the competitive significance of entities whose inclusion in the product market is questionable when no statistical data are available. One method is to exclude all data about them from HHI calculations, but to set higher HHI thresholds than the Horizontal Guidelines. See, e.g., Banco Popular de Puerto Rico, 79 Fed. Res. Bul. 979, 980 n.7 (1993). A second method is to include the questionable entities in the HHI calculations, but to give their data less weight than is given to the data of the entities that are unquestionably in the product market. See, e.g., Iowa Nat'l Bankshares Corp., 80 Fed. Res. Bul. 342, 344 (1994). A third method is to calculate HHI without such entities and, if the HHI indicates an unduly concentrated market, to consider such entities as mitigating factors without a specific numerical value. See, e.g., Keycorp, 81 Fed. Res. Bul. 286, 288 (1995).
market;
(10) air-ground, unlicensed PCS, and satellite-based services are niche competitors whose interchangeability with services in the product market is insignificant;
(11) there is significant use of maritime service and pay phones, a form of POTS, because the geographic market includes a major harbor and rivers that are recreational areas; and
(12) the geographic market is a metropolitan area.

Table 1. Pre-Merger HHI

<table>
<thead>
<tr>
<th>Competitor</th>
<th>MHz</th>
<th>Market Share %</th>
<th>Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellular Carrier A</td>
<td>35</td>
<td>18</td>
<td>324</td>
</tr>
<tr>
<td>Cellular Carrier B</td>
<td>35</td>
<td>18</td>
<td>324</td>
</tr>
<tr>
<td>Broadband PCS A</td>
<td>30</td>
<td>16</td>
<td>256</td>
</tr>
<tr>
<td>Broadband PCS B</td>
<td>30</td>
<td>16</td>
<td>256</td>
</tr>
<tr>
<td>Broadband PCS C</td>
<td>30</td>
<td>16</td>
<td>256</td>
</tr>
<tr>
<td>Broadband PCS D</td>
<td>10</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Large Interconnected SMR</td>
<td>10</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Small Interconnected SMR</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Private Radio</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Federal Government</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Maritime</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>CB Radio</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>POTS</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pre-Merger Total</td>
<td>192</td>
<td>100</td>
<td>1,476</td>
</tr>
</tbody>
</table>

Table 2. Post-Merger HHI

<table>
<thead>
<tr>
<th>Competitor</th>
<th>MHz</th>
<th>Market Share %</th>
<th>Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellular Carrier A</td>
<td>35</td>
<td>18</td>
<td>324</td>
</tr>
<tr>
<td>Cellular Carrier B</td>
<td>35</td>
<td>18</td>
<td>324</td>
</tr>
<tr>
<td>Broadband PCS A</td>
<td>40</td>
<td>21</td>
<td>441</td>
</tr>
<tr>
<td>Broadband PCS B</td>
<td>30</td>
<td>16</td>
<td>256</td>
</tr>
<tr>
<td>Broadband PCS C</td>
<td>30</td>
<td>16</td>
<td>256</td>
</tr>
<tr>
<td>Broadband PCS D</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Large Interconnected SMR</td>
<td>10</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Small Interconnected SMR</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Private Radio</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Federal Government</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Maritime</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>CB Radio</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>POTS</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Post-Merger Total</td>
<td>192</td>
<td>100</td>
<td>1,661</td>
</tr>
</tbody>
</table>

Net Change: HHI increase of 185.
Applying the *Horizontal Guidelines*’ standards for HHI numbers, the market is “moderately concentrated” before and after the merger. The merger increases the HHI by 185 points, which means that the merger “potentially raise[s] significant competitive concerns,” and its competitive effects probably warrant further analysis.\(^\text{157}\)

2. **Further Analysis**

The *Horizontal Guidelines* state that the HHI is “only the starting point” and that further analysis of the merger is always needed.\(^\text{158}\) What the HHI does, as a practical matter, is to assign the burden of proof. If the HHI is favorable to a merger, its opponents bear a heavy burden of proof in showing that it will decrease competition. If the HHI numbers are unfavorable, the proponents of the merger bear a heavy burden of proof in showing that it will not decrease competition. If the HHI numbers are in the middle range, both sides continue the analysis. In any event, analysis of the factors described below may condemn a merger that passed the HHI and may save one that failed it.

In discharging their respective burdens over the years, proponents and opponents of mergers have constructed a “Rogues Gallery” of anticompetitive effects of horizontal mergers. What follows is a tour of the most repellent exhibits.

*a. Dangers to Competition in Horizontal Mergers*

1. Diminished Innovation

Every horizontal merger eliminates one company from the industry, resulting in one less source of innovation and experimentation. This argument is flawed because it is difficult to quantify. Counsel needs to make arguments about diminished innovation and experimentation as precise as possible.

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157. If both the pre- and post-merger HHIs had been under 1000, or if the net increase in the HHI had been less than 100, under the *Horizontal Guidelines* the merger would be unlikely to have anticompetitive effects and ordinarily would require no further analysis. *Horizontal Guidelines, supra* note 18, § 1.51(a)-(b), at 20,573-5 to -6. If, however, the post-merger HHI had been over 1800, then the merger—the HHI increased more than 50—would be presumed to have anticompetitive effects. *Id.* § 1.51(c), at 30,573-6.

158. *Horizontal Guidelines, supra* note 18, § 2.0, at 20,573-6. Indeed, some scholarly analysts of horizontal mergers criticize all the matters discussed so far in this Article—product markets, geographic markets, and objective measurements like HHI—as a “paint by the numbers” approach that gives a “false air of precision” to merger analysis. See Hruska, *supra* note 21, at 313. These analysts would begin their analysis of horizontal mergers with the factors discussed in this subsection.
2. Greater Ease of Coordinated Interaction

The fewer the competitors, especially powerful ones, remaining in a market after a merger, the easier it is for them to engage in "coordinated interaction," such as fixing prices, limiting output, allocating customers or markets,\(^{159}\) or simply to fail to compete vigorously. Several elements of the mobile services industry, particularly its cellular component, make illicit coordinated interaction more likely than it would be in a typical industry. The same companies are often partners in one market and competitors in another.\(^{160}\) This allows their partnership meetings in one market to become a forum for discussions about coordinated interaction in their other markets.

Also, most cellular carriers are affiliates of much larger companies whose core business is POTS. The latter companies, therefore, have both the incentive, and through their supply of local exchange interconnection facilities, the opportunity to stunt the growth of mobile services as competitors to POTS.\(^{161}\) Third, the number of companies in the cellular industry has continually diminished as independent licensees have merged into large corporate structures that are dominated by providers of POTS.\(^{162}\) Finally, broadband PCS licensees, with few exceptions, are the

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159. See, e.g., U.S. DEP'T OF JUSTICE, AN ANTITRUST PRIMER FOR FEDERAL PROSECUTORS 11-12 (1994); Horizontal Guidelines, supra note 18, §§ 2.0-2.2, at 20,573-6 to -8. "Coordinated interaction" can occur simply by a significant reduction in the number of companies that interact. Mergers may also allow competitors to lessen competition through unilateral actions, especially in the case of differentiated services and products or markets with limited capacities. Id. §§ 2.2-2.22, at 20,573-8 to -9.

160. See, e.g., In re Applications of MMM Holdings, Inc., Memorandum Opinion and Order, 4 FCC Rcd. 8243, paras. 27-30 (1989). For example, as of late 1994, McCaw and BellSouth were partners in Los Angeles and Houston and competitors in Miami and Orlando; BellSouth and US Cellular were partners in Nashville and Baton Rouge and competitors in Los Angeles and Bakersfield; and BellSouth and Southwestern Bell were partners in Gary and competitors in Houston.

161. The Commission found this danger minimal when it created cellular service because of the high price of cellular service and the low capacity of cellular systems compared to POTS. In re Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems, Report and Order, 86 F.C.C.2d 469, para. 32 (1981). However, new technology may make wireless services a serious competitor to POTS. See CMRS First Annual Report, 10 FCC Rcd. para. 75 n.155. Such a development would create a risk that POTS providers would stunt the growth of wireless as a competitor indefinitely, or at least until their wireline systems are fully depreciated.

162. One reason the Commission approved the AT&T-McCaw merger was that McCaw was the last large cellular service provider that had not been acquired by a company whose primary interest was in POTS. Craig O. McCaw, Memorandum Opinion and Order, 9 FCC Rcd. 5836, para. 58 (1994).
same companies that dominate the cellular industry. In a business with a structure so conducive to coordinated interaction, collusion need not be express, as in a formal agreement to fix prices. An oligopolistic structure facilitates a laziness in competition that can produce the same results as express collusion (e.g., high prices, low quality, and lack of innovation). A horizontal merger will negatively affect competition if it will increase any of these structural infirmities.

On the other hand, these risks may not be as great as they appear. In the thirteen years since the commercial cellular industry began, there is no known case of express coordinated interaction—a remarkable achievement for a business in which there are only two sellers and so many incentives. Mobile services are, and will increasingly be, characterized by growing demand, supply, and technical innovation, making coordinated interaction relatively difficult to affect. Broadband PCS, by injecting several new competitors into each area, will make coordinated interaction, even among old friends, significantly more complicated and more difficult. These factors will reduce the risk of mergers facilitating coordinated interaction.

3. Potential Competition

If the purpose of a merger is for the acquiring company to enter a new activity or territory by purchasing an existing company, the question arises whether the acquiring company could do so alone, without eliminating an existing competitor. The question is rephrased slightly when two or more companies jointly attempt to enter a business or territory that is new to both of them. In that situation, the issue is whether each could enter the new business or territory alone, thus, resulting in two new competitors instead of just one.

Affirmatively improving competition in a product market is, perhaps, beyond the scope of merger law, whose principal goal is to prevent

163. The only major broadband PCS licensees that do not also have a major presence in the cellular and POTS businesses are AT&T and Wirelessco, a joint venture of three cable television companies and the interexchange carrier Sprint.


165. CMRS Third Report and Order, 9 FCC Rcd. paras. 53-56.

166. See United States v. FCC, 652 F.2d 72, 100-02 (D.C. Cir. 1980); In re Application of Alascom, Inc., AT&T Corp. and Pacific Telecom, Inc. for Transfer of Control of Alascom, Inc. from Pacific Telecom, Inc. to AT&T Corp., Order and Authorization, in File No. W-P-C 7037 et al., FCC 95-334 (Aug. 2, 1995) [hereinafter AT&T-Alascom].
deteriorations in competition. However, a merger such as described in the preceding paragraph will damage competition in the premerger market in two circumstances. The first occurs when the companies in the premerger market perceive that one or both of the merging companies would enter the market de novo. This actuates the companies in that market to keep prices lower, quality higher, and innovation faster than they otherwise would do. The second arises if one or both of the merging companies was actually planning to enter the market de novo and then decided instead to take the less adventurous step of entry by merger. In either situation, the merger will reduce competition.

Both these ideas are captured by the doctrine of "potential competition," which case law has divided into two types. The first, "perceived potential competition," focuses on the market about to be entered and the companies already in it, and holds that:

competition might be diminished if a company which industry participants had thought might actually enter the market on its own instead simply acquired a company already in that market. . . . [The doctrine recognizes] the probability that the acquiring firm prompted premerger procompetitive effects within the target market by being perceived by the existing firms in that market as likely to enter de novo. The elimination of such present procompetitive effects may render a merger unlawful under § 7 [of the Clayton Act.] Perceived potential competition focuses on the premerger effect on prices of the perception that if profits rise, a new company will enter the market and drive down both prices and profits. The second, "actual potential competition," focuses on the acquiring company and has the following elements:

1. the relevant market is oligopolistic; 2. absent the acquisition, the acquiring firm would have entered the market in the near future, either de novo or through acquisition of a little company; and 3. such entry by the acquiring firm carried a substantial likelihood of ultimately producing deconcentration of the market or other significant procompetitive effects.

167. § 7 of the Clayton Act, for example, forbids only those mergers that reduce competition or tend to create monopoly. See supra note 6. It does not authorize the government to order improvements in the premerger status quo.


169. Alberta Gas Chemicals, 826 F.2d at 1254-55 (Becker, J., dissenting) (citations omitted) (summarizing Marine Bancorporation, 418 U.S. at 630 and Tenneco, Inc. v. FTC, 689 F.2d 346, 352 (2d Cir. 1982)). See also Procter & Gamble, 386 U.S. 568 (1967).
Both scenarios require the merger’s opponent do more than show that \textit{de novo} entry is possible. To establish perceived potential competition, it must be shown that incumbent competitors actually fear entry by the acquiring company enough to lower price, and raise quality, and that after the merger there will be no other newcomers to keep the incumbent providers competing vigorously. Actual potential competition requires a showing that, but for the merger, the acquiring company would have entered the market. Such a showing is difficult to make without access to the acquiring company’s files and the ability to ascertain its executives’ inner thoughts.

In a business where \textit{de novo} entry requires a radio license, potential competition arguments can be made only if allocated and unlicensed spectrum for new entrant exists. Only then is entry possible by means other than a merger with an incumbent provider. This has not occurred frequently because mobile services have suffered from a chronic shortage of spectrum.\textsuperscript{170} However, if the Commission creates a surplus of spectrum,\textsuperscript{171} potential competition may become a valid objection to mobile services mergers.

4. Prior “Bad Acts” by a Party to the Merger

A party to a merger, especially the one that will control the post-merger company, that has a history of anticompetitive conduct (e.g., adjudicated violations of the antitrust laws or anticompetitive torts), raises the possibility of reduced competition after the merger.\textsuperscript{172} Assuming that it can be proven that a prior anticompetitive act occurred,\textsuperscript{173} its materiali-

\textsuperscript{170} The historic excess of demand for spectrum may not connote a shortage as much as it reflects the fact that until recently the Commission gave spectrum away for free. When something is free, the demand for it will usually exceed the supply.

\textsuperscript{171} In addition to PCS spectrum, mobile services might be provided on 25 MHz of spectrum that was recently reallocated from federal government use and on spectrum now used for fixed “wireless cable” service, called Local Multipoint Distribution Service. See \textit{CMRS First Annual Report, supra} note 33, 10 FCC Rcd. 8872, para. 83 & n.167.

\textsuperscript{172} See Horizontal Guidelines, \textit{supra} note 18, § 2.1, at 20,573-7. Such matters can be stated as “character” issues rather than, or in addition to, competitive ones. \textit{BAMS-NYNEX, 77 Rad. Reg. 2d (P & F) 1487, paras. 33-35 (1995)}.

\textsuperscript{173} Even if the act is proven, there may be disagreements about whether it was anticompetitive. Counsel who are accustomed to the friendly repartee that characterizes regulated oligopolies may have difficulty distinguishing between unlawful acts and the “rough and tumble” of the marketplace that benefits consumers. \textit{BAMS-NYNEX, 77 Rad. Reg. 2d (P & F) para. 36 & n.56. See also Stamatakis Indus., Inc. v. King, 965 F.2d 469, 471 (7th Cir. 1992) (“Competition is ruthless, unprincipled, uncharitable, unforgiving—and a boon to society, Adam Smith reminds us, precisely because of these qualities that make it a bane to other producers.”).
ty to the merger should be evaluated by asking several questions. Was the act committed by a merging company, or was the perpetrator an affiliate over which the merging company had no control and/or from which it derived no benefit? Is the act a common industry practice that is the subject of a current rule making or complaint proceeding where its effects can be better addressed? If the bad act is objectionable under the foregoing criteria, will the merger increase either the likelihood of its repetition or the severity of its negative effects on competition? This last question is most important because it focuses on the central competitive issue in mergers: the potential for the merger to cause a reduction in competition as opposed to the continuation of preexisting anticompetitive conditions.

b. Benefits to Competition in Horizontal Mergers

While horizontal mergers may dampen competition, case law and economic theory have fashioned arguments that can be made in their favor. Some of these arguments concede that competition may decrease, but shift the blame from the merging companies. Alternatively, these arguments show either that factors outside the merger will remedy any negative effect on competition or that the merger will ultimately increase competition. Other arguments deny that the merger will weaken competition.

1. Regulation

The Commission is “mindful of the need . . . to take into account possible distortions in the competitive marketplace produced by current rules.” For example, when the Commission allocated spectrum for two competing cellular systems in each area, it effectively forbade another entrant. If problems with competition that are expected in the post-merger market can be attributed to the Commission or a state regulatory body, then the merger’s anticompetitive effects may be viewed in a less sinister light. In such a case, the merging companies cannot be held responsible for causing the problem. Or, the merging companies can hope that regula-

174. If the anticompetitive act was committed by a merging company, then it is potentially serious, but if the bad actor was a mere corporate relative, then it may be less so. See, e.g., BAMS-NYNEX, 77 Rad. Reg. 2d (P & F) para. 41 & n.70.
175. § 7 of the Clayton Act on its face prohibits only those mergers that will reduce competition. See supra note 6.
177. See Metro Mobile CTS, Inc. v. Newvector Comm., Inc., 892 F.2d 62, 63 (9th Cir. 1989) (“Reliance on statistical market share in cases involving regulated industries is at best a tricky enterprise and is downright folly where, as here, the predominant market share is
tion will be altered to remove the anticompetitive effect on the market. 178

2. Efficiencies

Horizontal mergers may create financial savings, 179 economies of scale, 180 economies of scope, 181 or other efficiencies. 182 For example, a merger might make possible a new packaged offering such as telephone, paging, and dispatch services in one piece of terminal equipment. 183 A merger may create efficiencies of a more cultural nature, such as the combination of a cash-rich, stodgy company with a cash-poor, fleet-footed one. 184 If two such companies can combine their respective strengths, their merger will result in a net improvement in the competitiveness of the market.

Several questions are relevant concerning each allegedly procompetitive effect. First, how great is it? Increases in efficiency can range from the breathtaking to the trivial. The parties to the merger should attempt to document the merger's potential effects: including how many jobs and/or dollars will be saved; how much faster calls will be carried; or how many new offerings will be and made how soon. If they do, the question arises whether the demonstrated quantities are impressive compared to the

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178. A recent example is the Commission's approval of a substantial concentration of SMR licenses in the hands of one company, in part on grounds of the impending licensing of PCS and the removal of the prohibition of cellular companies providing SMR-like dispatch service. Motorola, Inc., Order, 10 FCC Rcd. 7783, para. 18 n.51 (1995), petition for reconsideration pending.

179. See Horizontal Guidelines, supra note 18, § 4, at 20,573-11 to -12.

180. Economies of scale, or increasing returns to scale, exist when the average cost of producing a product or service falls as the quantity of the product or service produced increases. CARLTON & PERLOFF, supra note 9, at 920. See also Kalish v. Franklin Advisers, Inc., 742 F. Supp. 1222, 1239 (S.D.N.Y. 1990).

181. Economies of scope exist when "it is less costly for one firm to perform two activities than for two specialized firms to perform them separately." CARLTON & PERLOFF, supra note 9, at 920. See also United States v. Western Elec. Co., 993 F.2d 1572, 1581 (D.C. Cir. 1993) (defining the economies of scope as "the capacity to produce related goods or services at an aggregate cost lower than the total for each produced separately.").


183. There would be economies of scope if it cost less for one company to offer cellular and paging services together than if two different suppliers offered the services.

184. Some claim this was an advantage of the merger of AT&T and McCaw.
merger's size.\textsuperscript{185}

Second, will the efficiencies enhance competitiveness? For example, it is reasonable to expect that faster call processing or new offerings will improve the merged company's service and will cause remaining competitors to improve their own services—clearly a procompetitive result.\textsuperscript{186} On the other hand, if financial savings, such as from merging two companies’ customer service departments, are all that is expected, the question arises whether the benefits will accrue solely to the shareholders or will be passed on to consumers, reinvested in improved service, or otherwise devoted to improving competition.\textsuperscript{187}

Third and most important, is the merger necessary for the efficiency to be realized? Could such efficiency be achieved without a merger?\textsuperscript{188} For example, after a cellular merger, the people who were customers of each merging company may be spared surcharges for roaming in areas that used to be the other merging company’s territory.\textsuperscript{189} Is such a change, however, an efficiency made possible by the merger, or simply a rate reduction that could be achieved by the companies agreeing to waive roaming charges for each other’s customers?\textsuperscript{190} Alternatively, the merged company may plan to charge the same price in all its geographic markets after the merger. Such a change would aid competition by reducing possible confusion for customers and, most important, would be almost impossible to arrange between two independent companies.\textsuperscript{191}

3. Ease of Entry

It is possible for a company to have a high market share, even to be a monopoly in the sense of being the only seller, and still be efficient. The

\textsuperscript{185}The parties also must satisfy the usual standards for credibility. Relatively credible evidence, for example, would be an estimate of savings that the acquiring company used in its business operations, such as in deciding whether to buy the acquired company or how much to pay for it. Less credible evidence would be a study that was created as evidence for use in litigation before the Commission. \textit{See}, \textit{e.g.}, Betts \textit{v.} Shalala, Civ. A. No. 94-2171-GTV, 1995 WL 164502, at *10 (D. Kan. Mar. 20, 1995) (testimony of a treating physician is entitled to more weight than testimony of a physician hired as an expert witness for litigation).


\textsuperscript{188}\textit{See} Horizontal Guidelines, \textit{supra} note 18, § 0.2, at 20,571 (The DOJ “assesses any efficiency gains that reasonably cannot be achieved by the parties through other means.”).

\textsuperscript{189}After the merger, all these customers will be customers of the merged company; and most cellular carriers do not impose roaming charges on their own customers.

\textsuperscript{190}\textit{See}, \textit{e.g.}, CS First BOSTON, \textit{supra} note 94, at 6.

\textsuperscript{191}If the carriers were competitors, it would be a crime. \textit{E.g.}, United States \textit{v.} Hayter Oil Co., 51 F.3d 1265 (6th Cir. 1995).
company may know that inefficiency or abuse of its customers will cause
new competitors to spring up, enter the market, and deny it the fruits of
any attempted exercise of market power. Such a market has "ease of
entry." This is a long-term view of "supply side substitution" or
uncommitted entry discussed in Part (I)(A)(4)(b)(1). Thus, a proponent
of a merger sustains it by showing that the post-merger market would be
one in which any conduct aimed at stifling competition would be thwarted
by new competitors entering the market.

In a mobile services merger, the proponent of the "ease of entry"
defense might be required to show affirmatively that the resources needed
to enter the market are readily available and could be deployed with modest
effort in a reasonably short time. The first resource might be spectrum—the
raw material needed for any mobile service. The proponent of "ease of
entry" would have to show that enough new spectrum exists to allow entry
into the relevant market. The proponent also could demonstrate that the
legal and regulatory barriers to entry would be negligible or, if significant,
could be surmounted with reasonable effort. Another required showing
might be that the financial capital needed to enter a business is available in
the financial markets. This would be especially important to show ease of
entry into mobile telephone service—a business in which millions must be
invested before the first dollar of revenue is earned. A proponent could

192. See United States v. Falstaff Brewing Corp., 410 U.S. 526, 559 (1973) ("The
existence of an aggressive, well equipped and well financed corporation engaged in the
same or related lines of commerce waiting anxiously to enter an oligopolistic market [is]
a substantial incentive to competition which cannot be underestimated."); Rebel Oil Co. v.
Atlantic Richfield Co., 51 F.3d 1421 (9th Cir. 1995).

1166, 1174 (N.D. Cal. 1986) (citing United States v. Waste Management, Inc., 743 F.2d
976, 982-83 (2d Cir. 1984)). See also ANTITRUST LAW DEVELOPMENTS, supra note 149,
at 307-11 and cases cited supra note 149; Horizontal Guidelines, supra note 18, § 1.0, at
20,572 n.7, § 3, at 20,573-9 to 20,574.

194. As long as the fact of impending or possible entry is considered in competitive
analysis, it may not matter to the outcome whether it is considered in product market
definition, in naming competitors for HHI tables, or in an ease of entry "defense." See
WL 77881, at *46 (S.D.N.Y. Feb. 22, 1995). The sooner in the analytical process is it
considered, however, the sooner its impact, if any, is clear.

195. State regulation of CMRS entry is defunct. See CMRS First Annual Report, 10 FCC
Rcd. para. 22 & n.31. However, local zoning and environmental procedures may pose
major barriers to rapid entry into CMRS.

196. Access by applicants to necessary financing is often challenged in mobile radio
licensing proceedings. In re Applications of Metro Mobile CTS, Inc., Memorandum Opinion
and Order on Reconsideration, 8 FCC Rcd. 8675, paras. 21-30 (1993); Paging Network of
Virginia, Inc., Memorandum Opinion and Order, 10 FCC Rcd. 1016, paras. 6, 12-19
also show that the necessary "human capital"—persons with the necessary
technical, financial, and marketing skills—is available in the labor market.

Other relevant contentions include that customers of existing providers
would not be "locked in" by long-term contracts or by the prohibitively
high cost of switching terminals. An additional argument is that a new
entrant could survive entirely on new customers. Finally, the proponent of
"ease of entry" might illustrate that all these barriers could be surmounted
in time to dissuade the merged company from attempting to abuse its
market power (e.g., by raising prices or failing to lower them).

The Horizontal Guidelines, for example, generally consider entry to be timely
if no more than two years elapse from "initial planning to significant
market impact." The same period has support in case law.

Establishing availability of spectrum may present differing degrees of
difficulty for various mobile services. For example, there appears to be an
enormous amount of spectrum available for paging service. The FCC has
allocated approximately 4.5 MHz to it. The FCC also has allocated
large spectrum amounts for cellular and SMR services (50 and 21 MHz,
respectively), broadband and narrowband PCS (120 and 3 MHz respective-
ly), and FM and television subcarriers all of which also may be used for
paging service.

Dispatch service may be more difficult to enter. It may be that the
spectrum allocated to PCS is, for technical reasons, useful for dispatch
service only with a large number of towers and intertower links. Quite
probably, the expense of such a network would put its price too far above
conventional dispatch and interconnected SMR services to be competitive.
As to cellular companies starting to provide dispatch, there appears to be
no technical problem with using cellular spectrum for dispatch service.
However, there may be an economic problem. If a cellular carrier earns
enormous profits by providing high-priced cellular service on all its
allocated spectrum, there may be no economic incentive to divert some of
that spectrum to relatively low-priced and, presumably, low-profit dispatch

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197. Horizontal Guidelines, supra note 18, §§ 3.0, 3.3 & n.28, 3.4, at 20,573-10 (asking
whether entry "would be sufficient to return market prices to their premerger levels").
198. Id. § 3.2, at 20,573-10.
200. This consists of 3 MHz allocated to paging and 1.5 MHz allocated to precellular
mobile telephone service.
201. See, e.g., Letter from Robert M. Pepper, Chief, FCC Office of Plans and Policy,
to Sen. Joseph I. Lieberman (D-CT) 12-13 (May 5, 1995) (Contact the Office of Plans and
Policy of the FCC for a copy of this letter at (202) 632-7000.). Spectrum that may be
available for paging service in a few years includes the 3.5 MHz that is allocated to LEO
satellites. See supra note 46.
service.202 Assuming the validity of this pessimistic view, any new entry into dispatch may have to come from new satellite systems203 and from the spectrum transferred from federal government to private use.204 If all these allocations become available for mobile services, there might be a surplus of spectrum and, as far as access to it is concerned, great “ease of entry” into any and all segments of the industry.205

4. Failing or Floundering Company

Sometimes a company’s market share overstates its actual power.206 This can occur when high numbers represent past sales or a hammerlock on unprofitable customers or areas,207 or when a company with healthy revenues becomes marginal through mismanagement. If the acquired company is floundering,208 and if ceasing operations would cause its corporate assets, including spectrum, to cease to be used to provide the relevant product, then a merger will not hinder competition as much as originally thought. In other words, the failing company’s absorption into another through a merger is the only way for it to continue in the market. Such a situation seems unlikely at present, because the mobile services industry has been hugely successful in the past decade.209 However, if a glut of spectrum is created, this industry may start showing a failure rate typical of the business world as a whole.

203. See supra note 46. The Commission has allocated 33 MHz for LEO satellites.
204. See supra note 61, 171. Because of technical limitations, much of the spectrum being transferred from the government may not be usable for mobile services without significant developmental research and testing.
205. Some industry observers doubt the prospects of broadband PCS, especially for creating three new providers of mobile telephone service outside large cities. See supra note 52.
207. AT&T-Alascom, Order and Authorization, in File No. W-P-C 7037 et al., FCC 95-334, para. 49 n.74 (Aug. 2, 1995) (Company has 60% market share largely because of its monopoly in unprofitable areas that it is obliged to serve.).
208. A “failing” company is one that is close to ceasing operations. A “floundering” company is one that is not yet failing, but shows significant signs of impending failure and has chronic problems that dash any realistic hope of recovery.
209. For example, there is no known case of a cellular company ceasing operations. CMRS First Annual Report, 10 FCC Rcd. para. 81.
c. A Note on Horizontal Extension Mergers

1. Product Extension Mergers

If a merger is between two mobile service companies that are in different product markets, such as a merger of a cellular service company and a paging service company in a case where those services have been found to be in different product markets, then there will be no increase in concentration in any relevant market, and no HHIs need be calculated. Such mergers are called product extension mergers and should be analyzed under all the factors described. The factors most likely to be important are the anticompetitive factor of potential competition and the procompetitive factor of efficiency.

2. Geographic Extension Mergers

If a merger is between two companies in the same product market but in different geographic markets, such as a merger between a cellular service company in city A and a cellular service company in city B, then there is no increase in concentration in any relevant market, and no HHIs need be calculated. Such mergers are called geographic extension mergers and, like product extension mergers, should be analyzed under all described factors, especially potential competition and efficiency. Because of the efficiencies that can be affected by such mergers and the alleged value of a regional or national brand name, geographic extension mergers are common in those mobile services that were initially licensed for relatively atomized territories.

210. This could be classified initially as a conglomerate merger. The similarity of the merging companies' services, however, makes it prudent to give it closer scrutiny than is normally given to conglomerate mergers. See supra notes 135-36.


213. Frequently, a competitor of one of the merging companies will complain that it has not integrated horizontally as quickly as the merging companies propose to do, and that their "headstart" will confer on them an enormous competitive advantage. This argument fails because it raises the specter of harm to the competitor rather than that of harm to competition, which is the legitimate concern of competitive analysis. See Brown Shoe Co., Inc. v. United States, 370 U.S. 294, 320 (1962); SBC Comm., Inc. v. FCC, 56 F.3d 1484, 1492, 1494-95 (D.C. Cir. 1995). The Commission has consistently rejected pleas by latecomers for relief from the headstarts of other, "fleeter-footed" licensees. See, e.g., In re Nationwide Wireless Network Corp., Memorandum Opinion and Order, 9 FCC Rcd. 3635,
B. Vertical Mergers

So far, this Article has concentrated on horizontal mergers. A vertical merger may have any of the dangers and benefits to competition concerning horizontal mergers, except for diminished innovation and greater ease of coordinated interaction, to the extent they concern those effects in the same product market. However, there are a few special considerations applicable to vertical mergers, which require separate examination.

Vertical mergers, as a whole, are now considered beneficial for competition and consumers. Negotiations between buyer and seller that were time-consuming in the past can now be completed quickly by the president of the merged company. In the same way, retailers' knowledge about customers' needs can be shared freely with manufacturing personnel, leading to shorter times between the planning and offering of new products and services. Viewed in this light, vertical mergers are considered benign unless they are affirmatively shown to be without the foregoing benefits or they have one or more of the flaws peculiar to either horizontal or vertical mergers. Flaws specific to vertical mergers are described below.

A vertical merger's first potential anticompetitive effect is when one of the merging companies has market power in a relevant market and, if the merger occurs, will be able to use that power to gain market power or at least an unreasonable advantage in a market where the other merging company is already present. This can happen when the upstream


216. Id. at 519, 522-27.

217. For example, the AT&T-McCaw merger combined a duopolist in cellular service (McCaw) with a company in the relatively competitive business of interexchange service (AT&T). It was feared that McCaw would require its customers to use AT&T interexchange service, thus leveraging its power in cellular service to reduce competition in interexchange service. Craig O. McCaw, Memorandum Opinion and Order, 9 FCC Rcd. 5836, paras. 63-67 (1994).

There is disagreement in the case law about whether the necessary showing of this danger is merely that the merged company will have an unreasonable advantage over its competitors or that it will achieve full-blown market power. See Fineman v. Armstrong World Industries, Inc., 980 F.2d 171, 204-06 (3d Cir. 1992) (comparing Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 276 (2d Cir. 1979), cert. denied, 444 U.S. 1093
merging company sells something (" inputs") to the competitors of the downstream merging company. The upstream company can stop supplying them, raise their price, or lower their quality after the merger, and competitors may be unable to procure comparable inputs elsewhere.\footnote{\textit{[The use of monopoly power attained in one market to gain a competitive advantage in another is a violation of section 2 [of the Sherman Act], even if there has not been an attempt to monopolize the second market."
}} with Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536 (9th Cir. 1991), \textit{cert. denied}, 503 U.S. 977 (1992) (In order to prevail upon a theory of monopoly leveraging, a plaintiff must prove threatened or actual monopoly in the leveraged market.). \footnote{\textit{See} Riordan & Salop, \textit{supra} note 215, at 520-22, 527-51. When they are "locked in" to the upstream merging company because of long-term contracts, proprietary technical specifications, or other unusual conditions, downstream competitors may be unable to obtain their inputs elsewhere. Eastman Kodak Co. v. Image Technical Services, Inc., 504 U.S. 451, 476-78 (1992); Digidyne Corp. v. Data General Corp., 734 F.2d 1336, 1341-44 (9th Cir. 1984), \textit{cert. denied}, 473 U.S. 908 (1985); \textit{Craig O. McCaw}, 9 FCC Rcd. paras. 54-56.}

The second potential anticompetitive effect is that it will require other companies in the two relevant markets to affiliate with each other and/or will require that future entrants into one market also simultaneously enter the other market. This may reduce competition in sales to downstream companies\footnote{\textit{But see} \textit{Craig O. McCaw}, 9 FCC Rcd. paras. 56, 99, 182.} by turning each downstream company into a captive (1980) (\"[T]he use of monopoly power attained in one market to gain a competitive advantage in another is a violation of section 2 [of the Sherman Act], even if there has not been an attempt to monopolize the second market.\") by turning each downstream company into a captive.

\footnote{\textit{But see} \textit{Craig O. McCaw}, 9 FCC Rcd. paras. 56, 99, 182.}
customer of its upstream affiliate. A vertical merger also may increase the cost of entry\textsuperscript{221} and lead to rigidity in the two relevant markets. A third potential anticompetitive effect involves a maverick company that will be disciplined by the other merging company, thus reducing competition and increasing the risk of collusion in the former company's market.\textsuperscript{222} The fourth effect is that each merging company, having easier access to the information of the other one, will be in a better position than before to act as the coordinator of price-fixing or other collusion among the other companies in either market.\textsuperscript{223} Finally, if the upstream company is unregulated, and the downstream company is a monopoly that is regulated ineffectively, the upstream company may sell its products to its downstream affiliate at inflated prices, which will then be passed on to the monopolist's captive customers.\textsuperscript{224}

The seriousness of each of these risks depends on the facts of each relevant market, which need careful examination. If both the upstream and the downstream markets are reasonably competitive, it is unlikely that any of these ill effects will occur. Usually, the anticompetitive effect in a vertical merger involves the imperfections in one of the relevant markets flowing through the merger into the other. Finally, in evaluating the seriousness of any risk of anticompetitive effects, it is necessary to remember that the vertical merger will decrease competition only if it results in injury to consumers, such as higher prices or lower quality goods. As with horizontal mergers, the focus is on harm to competition, not to competitors.\textsuperscript{225}

McCaw might buy networks only from AT&T after the merger. Furthermore, as a practical matter, the AT&T-McCaw affiliation might prompt the other cellular service company to affiliate with another manufacturer (e.g., Ericsson) and buy only from it, thus effectively eliminating all other manufacturers of cellular networks—Motorola, Northern Telecom, and Alcatel—and extending the duopoly from the downstream service market up to the manufacturing market. See id.\textsuperscript{221} Vertical Guidelines, supra note 214, §§ 4.211-12, at 20,566.\textsuperscript{222} Id. § 4.222, at 20,567. See also Horizontal Guidelines, supra note 18, § 2.12, at 20,573-8.\textsuperscript{223} Vertical Guidelines, supra note 214, § 4.221, at 20,566-67; Riordan & Salop, supra note 215, at 557-61.\textsuperscript{224} Vertical Guidelines, supra note 214, § 4.23, at 20,567; Riordan & Salop, supra note 215, at 561-64. In public utility law, this is the "affiliated interest" issue. It must be noted that if it is substantially likely that the vertical markets involved in the merger will become one as a result of regulatory action, changing technology, or consumer preference, then the merger is really a horizontal one and should be evaluated as such.\textsuperscript{225} See Thompson Everett, Inc. v. Nat'l Cable Advertising L.P., 57 F.3d 1317, 1325 (4th Cir. 1995) ("Because the antitrust laws are intended to protect competition, and not simply competitors, only injury caused by damage to the competitive process may form the basis of an antitrust claim."). See also Riordan & Salop, supra note 215, at 523, 530, 547-50, 564 and sources cited supra note 214.
C. Relief

At the end of the foregoing analysis the Commission will find the merger, on balance, to have a positive, negative, or no net effect on competition. If the Commission finds either a positive or negligible effect, then the associated transfer of radio licenses satisfies the competitive component of the Commission’s “public interest” standard, and, absent other effects that are contrary to the public interest, the transfer should be approved.\textsuperscript{226} If, however, the merger will decrease competition, then the Commission has at least two options. One is to analyze the other effects of the merger under the public interest standard, and search for some good effect that will outweigh the anticompetitive ones. Another option is remedial action by the Commission to eliminate the merger’s anticompetitive effects, or at least to reduce them enough to make the merger procompetitive or neutral on the whole. The most common form of such remedial action by the Commission is to require changes in the merger as a condition of approval.\textsuperscript{227}

Conditions can take many forms. Conditions may require divestitures that will lower the market share of the merged company below HHI ceilings or spectrum caps.\textsuperscript{228} Conditions may also be structural, such as requirements that certain activities be conducted through separate subsidiaries.\textsuperscript{229} Conditions can also be behavioral, such as prohibiting an

\textsuperscript{226} Mergers can suffer from other defects that are relevant to the Commission’s broad “public interest” standard. Such defects include harm to universal telephone service and national security. These defects do not concern competition and are, therefore, not discussed in this Article.


\textsuperscript{228} For example, in cellular mergers that result in the merged company having interests in both cellular systems in a geographic market, the Commission requires that one interest be divested. See, e.g., BAMS-NYNEX, 77 Rad. Reg. 2d (P & F) 1487, paras. 22-23 (1995); In re Contel Cellular Inc., Memorandum Opinion and Order, 6 FCC Rcd. 2080 (1991).

\textsuperscript{229} For a description of the costs and benefits of separate subsidiary requirements, see Amendment to the Commission’s Rules Concerning Maritime Communications, First Report and Order, 10 FCC Rcd. 8419, paras. 19-21 (1995). Independent of any transfer or merger, the Commission has authority under §§ 218 and 303 (g) of the Communication Act to investigate and regulate the corporate structure of companies within its jurisdiction. 47
upstream company from discriminating in favor of its downstream affiliate, or requiring disclosure of information concerning any misconduct.

Concerning each possible condition, several questions arise in the interests of competition and efficient government regulation of business. First, will the condition prevent all of the anticompetitive effects, or only some of them? Second, will the condition reduce an equal or larger amount of the procompetitive or other positive effects of the merger? Third, will the condition be costly or complicated to enforce, or will it slow innovation in a relevant market so much so that, on the whole, it will create costs, disputes, and other problems that are as great as or larger than the ones it solves? Only conditions that survive scrutiny under these standards will result in procompetitive effects. Conditions that do not survive this scrutiny should not be imposed, and the merger will remain one that, on the whole, is anticompetitive.

CONCLUSION

If and when there is a surplus of frequencies for mobile services, total flexibility of use of spectrum, and costless interchangeability of terminal equipment, then the risks to competition due to mergers of mobile services companies will be considered negligible. In the meantime, there may be risks which require vigilance. Indeed, the transition from oligopoly to competition may require a special vigilance. That is the time when incumbent firms know that any ability they have to discourage and hobble their new competitors is about to slip through their fingers forever. Beyond this time of danger is a brighter prospect of a workably competitive market for mobile services. Conceivably, such competition will drive down prices enough to create real rivalry for POTS. Competitive analysis of mergers in the mobile services industry, if rigorous, will preserve the promise of the Commission’s recent flood of spectrum onto the market and will turn a comfortable oligopoly into a truly competitive business with consequent benefits for consumers and this nation’s economic and social life.


231. Id. paras. 116, 180. See, e.g., In re MCI Comm. Corp. & British Tel. plc, Declaratory Ruling and Order, 9 FCC Rcd. 3960 passim (1994). The knowledge that any misconduct will be reported will dissuade the merged company from engaging in it, especially if competitors who review the information are large companies with experienced research staffs.