Systems Competition in Antitrust Policy

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In these remarks I will present a framework for the antitrust analysis of systems competition, and discuss one U.S. court decision and one recent European Commission case, both of which confront systems issues in the context of tying law. I conclude that there is a need to strengthen the conceptual and analytical tools used to analyze system competition issues. The law usually lags developments in the wider society, and antitrust law is no exception. The idea of the systems competition approach is to help emphasize features of modern markets not adequately considered in current competition law.

The present consensus seems to have moved beyond the deregulation and lax intervention norms of the past three decades, which relied too heavily on the economic tendency of markets to self-equilibrate as a reason to deregulate, and is more accepting of government as an institution with an important, efficiency-enhancing role in preserving and promoting market competition. As dramatic changes in the relationship between government and private enterprise are occurring in nearly all quarters of the economy, particularly in banking, finance, automobiles, telecommunications, and healthcare, it is unremarkable to predict that we are at an inflection point for antitrust policy. One reason to think about systems competition, therefore, is its tendency to focus on a more realistic, fact-intensive, and nuanced consideration of what is actually occurring in industrial markets for the purpose of developing good antitrust policy that

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accounts for real market facts, employs sound economic analysis, and involves proportionate costs of administration.

I. What is "Systems Competition"?

For clarity, let us define a *system* as a product or service offered in the marketplace, comprised of discrete *components* that work together to create utility for end-users.[1] The *platform* or *backbone* of the system is the technical means by which the multiple system components communicate, achieving *interoperability*. If a platform is *modular*, it possesses one or more *technical interfaces* at the demarcations between components and the platform or between two components. These *nodes* in the system tend to occur where the exchange of a large amount of technical information between separate operating units is feasible, and the information is often organized according to a *de jure* or *de facto* standard.

Modular components are easily replaced or substituted, while "hard wired," or *integrated*, components are difficult or impossible to replace or substitute. The more modular a system becomes, however, the less meaningful becomes the distinction between the platform and its range of interoperable modular components.[2] The polar cases are referred to as *closed* or *open* systems, but rather than being completely closed or completely open, industrial systems tend to exhibit gradations of openness and gradations in the degree of interoperability as between

[1] Under this definition, almost anything sold that is not a commodity, or "commodity-like"—or, to put it affirmatively, possesses "moving parts," is a system.

[2] The well-known remark about the "commoditization" of Windows® describes an example of the platform (in that case, the PC operating system) becoming a modular system component. The part of the Microsoft case sometimes referred to as Java's "platform threat," was really about whether the operating system would continue to be "hard wired" to the PC or become substitutable with a modular operating system embedded in Java-based Netscape.

competing differentiated modular components.[3] The critical distinction in the systems approach is the distinction between *component competition*, which depends on the modularity and interoperability policies of the system, and *system competition*, which involves at least two or more competing (substitutable) systems. As between the two types of competition, component competition presents the more subtle and difficult issues for competition law.

Modularity is a two-edged sword for system operators, because they benefit from modularity all along the value chain, but would prefer that competition occur only for certain components and not for others, and only to the extent optimal for their proprietary interests. But, the pressure toward systemization coming from every stage of the value chain has led to the rise of modular production networks, what Timothy Sturgeon has called the "new American model of industrial organization," characterized by a global network of turn-key suppliers that provide the opportunity to outsource any industrial activity not considered part of a firm's "core competence."[4] To illustrate, consider that the largest single employer in the U.S. is not an industrial corporation, but Manpower, Inc., a supplier of temporary employment. The largest private owner of jet aircraft is not an airline, but General Electric's leasing unit. In the mid-1990's, after announcing its largest quarterly loss in its history, Apple Computer sold one of its largest production facilities to SCI Systems. Apple's problems stemmed not from poor demand but from its inability to meet demand it had underestimated. Outsourcing its production to

[3] The text suggests a non-trivial distinction for antitrust purposes between "competing differentiated modular components," "competing equivalent modular components," "non-competing (complimentary) modular components," and, even, "competing differentiated sub-systems of complimentary modular components."

[4] Timothy J. Sturgeon, "Modular production networks: a new American model of industrial organization," 11 *Industrial and Corporate Change* 451.

contract manufacturers gave Apple a modular production network that provided a level of production flexibility not attainable as a vertically-integrated producer. Since then, the operator of the manufacturing facility has become one of only a handful of firms that actually manufacture computers, and they do it more efficiently and with a superior ability to adapt production to changes in demand than Apple ever could by itself.

Apple's production outsourcing illustrates the ongoing self-transformation of the monolithic, vertically-integrated, Anglo-Saxon version of the industrial corporation into more of an Asian- or Scandinavian-inspired network of production facilities with the ability to internalize the efficiencies of modularity.[5] Modular production networks are efficient because they conserve human effort through the re-use of system elements, promote the development of automated production facilities, foster firms with generic rather than idiosyncratic capabilities, and separate product innovation from manufacturing, warehousing, distributing, retailing, promotion, and the other stages of the value chain. Moreover, the efficiencies of modularity may be internalized at any point in the supply chain by any number of parties with almost any kind of capability. Thus, systemization arises because of the potential boon in the form of productivity and opportunity for a range of participants created by modularity and interoperability. Between the idealized polar cases of closed and open systems lies an infinite range of potential market organizations (a game theorist would call them *equilibria*) that is determined by the degree of modularity and component interoperability designed into the system. Thus, the competitive regime in component markets rests largely (but not completely) under the control of the system operator. The various

[5] See Joseph Farrell and Philip J. Weiser, "Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age," 17 Harv. J. L. & Tech. 85 (2003).

ways in which a "market" for a modular component could be organized ranges from self-supply by a firm (equivalent to a closed system, or no component market at all) to a highly competitive situation in which a modular component trades at prices that are set in an active, liquid and transparent market.

II. Antitrust Policy towards System Competition

Economically, the two types of competition—systems competition and component competition—cannot be expected to be perfect, or perhaps even close, substitutes.[6] In the case of horizontal competition between systems, it is standard to assume loss of consumer welfare when the competitors agree jointly to maximize profits, or to enter other arrangements that rig the market, rather than to compete. On the other hand, there is no equivalent basis for suspicion of joint undertakings between firms and their suppliers or their customers, parties engaged in a joint enterprise to begin with. The agreements reached between firms and their suppliers and customers are more difficult for antitrust analysis because, from a consumer welfare perspective, the arrangements may be beneficial, occasionally neutral, and sometimes anticompetitive. As a result, current antitrust norms regard collusion between operators of competing systems as a violation of Section 1 (even if not necessarily a *per se* one, as was attempted in *Bell Atlantic v. Twombly*), while firms interacting with suppliers and customers are presumed to be engaged in "bargaining," a process into which antitrust is ordinarily loath to intervene. By starting from the observation that system operators vis-à-vis third-party suppliers or purchasers of modular components are not horizontal competitors, but rather parties engaged in vertical, non-

[6] See, *e.g.*, Joseph Farrell, Hunter K. Monroe, and Garth Saloner, "The Vertical Organization of Industry: Systems Competition versus Component Competition," 7(2) J. Econ. & Mgm't Strategy 143 (1998).

competitive bargaining, Section 1 doctrine reaches serious competition issues in markets for modular components only with some difficulty.

A similar impediment obtains in Section 2 law in the case of component competition in the form of a high-tech version of the *Colgate* doctrine. If modularity and interoperability policies are akin to choosing with whom one desires to deal, the high-tech *Colgate* rule is, "No duty to interface."

Clearly, even though antitrust authorities have been biased against intervention in modular component markets, non-liability for system policies is not always the outcome. The difficulty is to know exactly when, or having a coherent set of rules to determine when, courts or regulators ought to intervene to promote or protect component competition.

The notion of "vertical competition" has been championed by Robert L. Steiner for many years, and while most courts would be likely to reject a case based on a theory of harm to vertical competition, it is probably mainstream antitrust economics by now that market power in downstream distribution in relation to market power in manufacturing a differentiated product determines the relative profit margins earned at each stage of the supply chain, as Bob's theorem holds.[7] But, for systems competition analysis, Steiner's notion of vertical competition needs generalizing beyond distribution networks to include production or any other value-creation activity that could occur at a system node. Steiner's work suggests that in making judgments about intervention or liability in modular component markets the analysis of relative market power at different stages of the production process is likely to be important.

III. Examples of Component Market Issues in Tying Law

[7] See, *e.g.*, Robert L. Steiner, "Vertical Competition," mimeo (on file with author).

The awkwardness of conventional antitrust analysis when confronted with component market competition issues can be illustrated by tying law, which frequently is the theory of liability pressed to address the perceived competitive problem.[8]

A. Abbreviated Background on Tying

The Supreme Court was sanguine about tying in its first case, *U.S. v. United Shoe Mach. of N.J.*,[9] decided in 1918, where it let stand lease provisions for shoe-making machinery that prohibited use of the machines with any machine not manufactured by United Shoe, observing that "leases are simply bargains." But, in 1922, the Court condemned the same lease terms under the Clayton Act, and was thereafter consistently hostile toward tying arrangements. By 1949, the Court had declared that tying served "hardly any purpose beyond the suppression of competition."[10]

Characteristic of that era was *IBM v. U.S.*,[11] decided under the Section 3 anti-tying provision of the Clayton Act, in which the Court condemned IBM's lease conditions prohibiting the use of non-IBM punch cards in IBM machines. The company's objections that the protection of its goodwill justified the clause (because other manufacturers would not meet the manufacturing tolerances required for the cards to work properly in IBM machines) was contradicted by evidence that both Remington Rand and the U.S. government manufactured

[8] There are as many legal theories, of course, as there are creative lawyers. The most fitting legal theory is frequently a Section 2 claim for "monopoly leveraging," but in *Trinko*, the Supreme Court made clear that a monopoly leveraging claim is legally equivalent to a claim for attempted monopolization of the component market, which requires *prima facie* conditions that rarely appertain to component market issues, and may make no sense at all.

[9] 247 U.S. 32 (1918).

[10] Standard Oil Co. of Cal. v. U.S., 337 U.S. 293, 305-06 (1949).

[11] 298 U.S. 131 (1936).

millions of suitable cards annually (in fact, the government paid a 15% lease premium to IBM for the right to self-supply punch cards). Implicitly, the Court assumed that the relevant tied market was punch cards, that a competitive market in punch cards could develop and would be a superior form of industrial organization than OEM-supplied-only punch cards, and that the principal effect of IBM's policy was to vest it with a monopoly over what, but for the tie, would and should be an otherwise competitive market.

Influenced by the emergence of Chicago-school economics and Robert Bork's polemic against antitrust in the 1970's, Justice O'Connor in 1984 famously suggested in her concurrence in *Jefferson Parish* that *per se* condemnation of tying ought to be abandoned.[12] Most recently, in 2006, the Court in *Illinois Tool Works Inc. v. Independent Ink, Inc*.[13] explicitly rejected the anticompetitive suspicions of tying it expressed fifty years earlier in *Standard Oil*, noted the ubiquity and the economic benefits of tied and bundled product offerings, and held that market power in the tying product market must be proven as a condition of liability; merely showing that the defendant is the patentee of the tying product does not suffice. The Court engaged in little analysis of the relationship between the systems market for printing presses and the component market for ink, where the competitive problem actually arose. The other elephant in the room chosen to be ignored by the Court was, in addition to selling enough patented printing machines to make it worth Independent Ink's while to supply ink for them, how much market power in the printing press market did the case require before the competition problem in the ink market could be addressed? And, why?

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[12] Jefferson Parish Hospital Dist. No. 2 v. Hyde, 466 U.S. 2, 35 (1984) (O'Connor, J., concurring).

[13] 547 U.S. 28 (2006).

The closest the Court has ever come to taking a systems competition perspective was in *Eastman Kodak Co. v. Image Technical Services, Inc*.,[14] in which it held that a jury should be permitted to decide the lawfulness of Kodak's policy of closing off the sale of copier parts to independent copier repair and maintenance shops. The policy locked-in end-users to Kodak-supplied service. The case illustrates the general principal that changes by a system operator in how a component market is organized deserve serious antitrust scrutiny. The case also demonstrates considerable (and, in my view, justified) faith in a jury to sort it all out. For the most part, however, U.S. tying doctrine prevents this. While juries are possessed of remarkable intuition, courts often lack the means to provide them with a coherent means by which to understand the evidence.

Another impediment for tying law is the broadly accepted notion that firms bundle and tie because it is efficient, and thereby 'pro-competitive.' The recently withdrawn[15] DOJ Report on Section 2 concludes that "[t]ying typically benefits consumers."[16] Although the Report acknowledges that sometimes "a monopolist may have an incentive to use tying to obtain a monopoly in a second market,"[17] the conditions under which this can be shown using conventional antitrust analysis are rare. Critics of tying frequently cite the ubiquity of tying and bundling as exculpatory evidence, but rarely do they recognize the tremendous product and

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[14] 504 U.S. 451 (1992).

[15] Christine A. Varney, "Vigorous Antitrust Enforcement in this Challenging Era," Remarks of the Assistant Attorney General, Antitrust Division, U.S. Dep't of Justice before the Center for American Progress (May 11, 2009) (*Varney Remarks*).

[16] *Competition and Monopoly: Single-Firm Conduct Under Section 2 of the Sherman Act*, U.S. Dep't. of Justice (2008), at 90.

[17] *Id*. at 83.

process efficiencies of modularity, or acknowledge the dispositive role of the industry context for the reasonableness analysis. Consumers are often said to demand tied and bundled products, but their desire for differentiated modular components to customize and tinker with their systems is rarely ever mentioned.

B. Two Recent Examples

Antitrust authorities continue to adjudicate tying cases without reference to the systems framework, and, therefore, cases are decided without acknowledging the implicit judgments arrived at about the industrial organization of the component market.

1. *RLH v. SBC Communications*

The first example is a 2005 California state appellate court case, in which a summary judgment for the defendant in a tying claim against the telephone company Ameritech was reversed, while a summary judgment granted to the co-defendant, Pacific Bell was affirmed.[18] The two defendants differed solely in their policies with respect to high voltage protection (HVP) devices required on large installations of telephone equipment. The plaintiff, a manufacturer of HVP devices, faced competition from three other suppliers. PacBell's policies gave its subscribers a choice of leasing an HVP device or buying one from two of the plaintiff's rivals, a policy the court concluded "does not risk harming competition." SBC, by contrast, "forbids its customers from buying and installing their own HVP devices," whether plaintiff's or anyone else's, and could, therefore, be found liable for tying. Driving the court's reasoning is the notion that the system in which the operator agreed to interoperate with two of the four HVP suppliers, in addition to offering a lease option directly, by some measure, created an adequately

[18] RLH Industries, Inc. v. SBC Communications, Inc., 133 Cal.App.4th 1277 (4th Dist. 2005).

competitive component market, while the other system's policy did not. The case illustrates the nature of the industrial organization issues that face courts confronted with component market disputes.

2. EC's Announcement of a Statement of Objections re: Internet Explorer

The second example involves the European Commission's announcement on January 17, 2009 that it had sent a Statement of Objections to Microsoft regarding its policy of tying its Internet Explorer internet browser to the Windows® operating system. In March 2004, the Commission found that Microsoft abused its dominance by tying Windows® Media Player to the Windows® operating system,[19] which was affirmed by the Court of First Instance in 2007.[20]

The new Statement of Objections addresses a similar alleged distortion in the market for internet browsers, purportedly caused by the "artificial distribution advantage [created by the tie] which other web browsers are unable to match."[21] As the Commission explained, by including the browser component with the operating system, "Microsoft shields Internet Explorer from head to head competition with other browsers which is detrimental to the pace of product innovation and to the quality of products which consumers ultimately obtain."[22]

Microsoft's response was to announce that it planned to ship the new Windows® 7 operating system to manufacturers without any browser installed at all.[23] Presumably, this would free the browser component market from most conditions imposed by the system operator and

[19] IP/04/382.

[20] CFI Case T-201-04 (Sept. 17, 2007).

[21] E.C. Memo/09/15 (Jan. 17, 2009).

[22] *Id.*

[23] "E.U. criticizes Microsoft Plan to Remove Browser," New York Times (June 12, 2009).

create an environment conducive to the development of a competitive equilibrium. It also demonstrates that, for the same reason that modular production networks and outsourcing are feasible and profitable, remedies mandating conditions for modular component competition are feasible and administrable.[24]

Interestingly, this seems to have left the Commission in something of a quandary, which last week issued a rebuttal that "[r]ather than more choice, Microsoft seems to have chosen to provide less."[25] The Commission explained,

> The [Statement of Objections] sets out the preliminary view that, should the Commission conclude that Microsoft's conduct was abusive, any remedy would need to restore a level-playing field and enable genuine consumer choice between Internet Explorer and third-party web browsers ...[26]

One standout of this development is the Commission's freedom from the formalistic doctrine of U.S. tying law by virtue of the cognizability of an abuse of dominance under Article 82, an offense not cognizable under Section 2. But, more interesting, is that by choosing *not* to bundle the component with its systems, the system operator has signaled its intention to relinquish control over the industrial organization of the component market, leveling the field considerably. Without IE preinstalled, who knows how the browser market will develop? Microsoft, no doubt, believes it can compete on the merits, and while it is likely to wield

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[24] *Contra Section 2 Report*, at 88 ("Finally, the Department agrees that remedying anticompetitive technological ties appropriately can often be difficult, requiring courts to make judgments about unusually complicated, forward-looking business issues and thereby heightening the risk that a remedy will hurt, rather than help, consumers.").

[25] MEMO/09/272 (June 12, 2009).

[26] *Id.*

considerable influence, the market should also be driven by free enterprise fueled by the promise of profit, and, to the extent this is achieved, antitrust policy has succeeded.

The Commission, however, appears to have a particular market equilibrium in mind, which involves a "ballot screen" that would allow purchasers of Windows-PCs easily to choose which browser to install. As the Commission put it, "it is particularly important to ensure consumer choice through the computer manufacturer channel."[27] This proposed remedy suggests *sub rosa* economic conclusions about the organization of the component market that surpass the the assumptions implicit in the U.S. cases. In *U.S. v. IBM* and *RLH v. SBC*, for example, the punch card and telephone HVP component markets were assumed to be relevant antitrust markets in which competition deserved to be protected by eliminating a specific offensive restraint. Once the unlawful system policy was extinguished, competition, as it happened then to exist or as it might develop in a future without the offensive restraint, was sufficient. Further market intervention beyond what was needed to resolve the specific violation remained unexercised. By contrast, the EC in the browser case seems to be going beyond the specific instance of abusive conduct.

IV. Conclusion

In her recent remarks, the new Assistant Attorney General for Antitrust, Christine A. Varney, sounded a call for the Antitrust Division to "consider the overall state of competition in the industries in which [they] are reviewing potentially anticompetitive conduct or mergers" and to "consider market trends and dynamics, and not lose sight of the broader impacts of antitrust

[27] *Id.*

enforcement."[28] One way to promote that goal is to develop criteria for when antitrust ought to intervene against system policies that determine the state of competition in component markets. Where private business decisions by the system operator have significant implications for entry into sizable markets, the wider state of competition, or the availability of broad economic opportunity, the policies set up by a system operator should yield to less-restrictive governmentally-imposed system policies. When this kind of governmental action would significantly enhance competition, check incumbent market power, or increase consumer welfare through increased choice, variety and innovation, it should fall within the traditional purview of antitrust. A systems competition approach can help frame the questions that will need to be asked as the issues created by modular production processes and consumer demand for interoperable products continue to arise with increasing frequency.

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[28] *Varney Remarks*, at *17.