Abstract:

Michael Betts is currently pursuing a J.D. at The University of Oklahoma College of Law.
Below, Mr. Betts provides the final article of his three-part series. This article follows his
second part, *Standardization in Information Technology Industries: Emerging Issues under
Section Two of the Sherman Antitrust Act*, where he introduced possible implications of Section
2 of the Sherman Antitrust Act, and explicated the only relevant issue raised by standards
competition in IT industries. That is, whether the winning firm has abused its power to maintain
the monopoly. Refer to 3 Okla. J.L. & Tech. 34 (2007) for a full copy of *Standardization in
Information Technology Industries*. Here, Mr. Betts analyzes this issue in the context of *United
States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001).

UNITED STATES VERSUS MICROSOFT: A CASE STUDY

© 2007 Michael Betts

I. Introduction

This e-Brief is a continuation of *Standardization in Information Technology Industries:
Emerging Issues under Section Two of the Sherman Antitrust Act* [1]. In that e-Brief, competition
in Information Technology (IT) industries and the potential implications of Section 2 of the
Sherman Antitrust Act (Section 2) were discussed.[2] The author reasoned that the most relevant
issue was whether the standard winning firm abused its power by maintaining a monopoly.[3] The
question now becomes: how will <u>a court</u> resolve this issue given the unique nature of
competition in IT industries?

The purpose of this e-Brief is to shed some light on this inquiry by illustrating the D.C.
Circuit's (the Court) methodology in *United States v. Microsoft Corporation*.[4] The following
section lays out the factual background of the case. The next section summarizes the Court's
thoughts on whether "'old economy' Section 2 monopolization doctrines should apply to firms

---

[1] *See* Michael Betts, *Standardization in Information Technology Industries: Emerging Issues under Section Two of
the Sherman Antitrust Act*, 3 OKLA. J.L. & TECH. 34 (2007).
[2] *See generally id*. (manuscript at 2-8) ("Standardization may lead to 'winner-take-all' outcomes where the firm that
establishes the industry standard emerges as market leader. And, because network effects create such high
switching costs, the winning firm can easily maintain its new leadership position. This raises issues of illegal
monopolization under Section 2 of the Sherman Act.").
[3] *See id*. (manuscript at 9).
[4] *See* United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).

competing in dynamic technological markets characterized by network effects."[5] The final

section discusses the Court's Section 2 monopolization analysis.

II. Background

A. Something About Microsoft

Over the past two decades, Microsoft has emerged as the clear market leader in Personal

Computer (PC) operating systems.[6] It achieved this by winning the race for the industry

standard. That is, Microsoft successfully established the *de facto*[7] standard in the operating

system market.

Microsoft joined the race in 1975 when it developed a version of the programming

language BASIC for the Altair 8800.[8] However, the source of real success for the company was

the DOS operating system.

IBM awarded a contract to Microsoft to provide a version of the CP/M[9] operating system

for the upcoming IBM PC.[10] Microsoft purchased a CP/M clone called QDOS (Quick and Dirty

Operating System) from Tim Paterson for $50,000.[11] Because of IBM's subsequent dominance

in the PC market, QDOS became an industry standard for operating systems.[12] However, it was

---

[5] *See id*. at 49.
[6] *See* Hoovers Online, Overview of Microsoft Corporation,
http://premium.hoovers.com.ezproxy2.lib.ou.edu/subscribe/co/factsheet.xhtml?ID=14120 (last visited Nov. 25,
2005) (limited access).
[7] Standardization is the adoption of a common standard by the entire market. If standardized by way of competitive
forces, the new industry standard is said to be *de facto*.
[8] *See* Hoovers Online, History of Microsoft Corporation*,*
http://premium.hoovers.com.ezproxy2.lib.ou.edu/subscribe/co/history.xhtml?ID=14120 (last visited Nov. 25, 2005)
(limited access); *see also Altair 8800*, in WIKIPEDIA.COM, http://en.wikipedia.org/wiki/Altair_8800(last visited Nov.
25, 2005) ("The MITS Altair 8800 was a microcomputer design from 1975, based on the Intel 8080A CPU. . . .
Today the Altair is widely recognized as the spark that led to the personal computer revolution of the next few
years").
[9] *See CP/M*, *at* WIKIPEDIA.COM, http://en.wikipedia.org/wiki/CP/M(last visited Nov. 25, 2005) ("CP/M is an
operating system created for Intel 8080/85").
[10] *See supra* note 8.
[11] *Id*.
[12] *See Microsoft*, *at* WIKIPEDIA.COM, http://en.wikipedia.org/wiki/Microsoft (last visited Nov. 25, 2005).

not until after Compaq successfully cloned the IBM BIOS[13] that Microsoft could become the

dominant player in the PC operating system market. With its early foothold in the market,

Microsoft took advantage of the flood of IBM PC clones by licensing its operating system for

use on those systems.[14] From this, MS-DOS was born, and Microsoft became the major force in

the market.[15]

In 1985, Microsoft released its first retail version of Microsoft Windows as an add-on to

MS-DOS.[16] This move was to counter Apple's new Macintosh which utilized its own graphic

user interface operating system.[17] But instead of concentrating on Windows, Microsoft

continued its development of the OS/2[18] for the new IBM PS/2.[19]

OS/2 was short lived and the partnership with IBM was soon over.[20] Microsoft then

refocused its efforts on Windows. After immense success with Windows 3.1, Microsoft

introduced Microsoft Windows 95.[21] Microsoft continued to update Windows over the next 6

years including Windows ME, one of the most unstable systems Microsoft had ever produced.[22]

However, Microsoft quickly released Windows XP and merged the consumer and business lines

---

[13] *See BIOS, at* WIKIPEDIA.COM, http://en.wikipedia.org/wiki/BIOS(last visited Nov. 25, 2005) ("The primary function of BIOS is to prepare the machine so other software programs stored on various media (such as hard drives, floppies, and CDs) can load, execute, and assume control of the [computer].").
[14] *See supra* note 12.
[15] *See supra* note 12.
[16] *See supra* note 8.
[17] *See supra* note 8.
[18] *See OS/2, at* WIKIPEDIA.COM, http://en.wikipedia.org/wiki/Os2 (last visited Nov. 25, 2005) ("OS/2 is an operating system created by Microsoft and IBM and later developed by IBM exclusively. OS/2 was intended as a protected mode successor of MS-DOS and Microsoft Windows.").
[19] *See IBM Personal System/2, at* WIKIPEDIA.COM, http://en.wikipedia.org/wiki/IBM_Personal_System/2(last visited Nov. 25, 2005). "PS/2 was IBM's second generation of personal computers created to recapture control of the PC market by introducing an advanced proprietary architecture." *Id.* This ultimately failed.
[20] *See supra* note 12.
[21] *Id.*
[22] *Id.*

of Windows. [23] Today, Microsoft Windows XP is the *de facto* standard and dominating operating system in the market.

B. Taking Advantage of their Market Power

Over the past ten years, Microsoft Corporation (Microsoft) has been entangled in a seemingly unending antitrust struggle. The saga first started in 1996 when the United States Department of Justice (DOJ) filed suit against Microsoft, charging the company with unlawfully maintaining a monopoly in the PC operating system market.[24] Ultimately, the case was never tried because Microsoft entered into a consent decree with the DOJ.[25] Two years later, however, the United States and a group of State plaintiffs filed complaints asserting that Microsoft "unlawfully maintained a monopoly in the PC operating system market in violation of Section 2."[26]

III. D.C. Circuit's View on Monopolization in IT Industries

There is significant debate amongst academics and practitioners over the extent to which Section 2 monopolization doctrine should be changed in light of the nature of competition in IT industries. As discussed in *Standardization in Information Technology Industries: Emerging Issues under Section Two of the Sherman Antitrust Act*, IT industries are characterized by strong network effects. In these markets, one product or standard tends to dominate because consumer utility derived from consumption of the good increases with the number of others consuming the

---

[23] *Id.*
[24] *See* United States v. Microsoft Corp., 253 F.3d 34, 47 (D.C. Cir. 2001).
[25] *See id.*
[26] *See id.*

good.[27]   Once a product or standard achieves wide acceptance, it becomes entrenched.[28]

Accordingly, competition in such industries is for the market rather than within the market.[29]

The Court in *United States v. Microsoft* noted, however, that the entrenchment may be

temporary, because innovation may alter the field altogether.[30]   Specifically, the Court wrote,

"rapid technological change leads to markets in which 'firms compete through innovation for

temporary market dominance, from which they may be displaced by the next wave of product

advancements."[31]

Initially it seemed that the Court may consider the special nature of competition in IT

industries. In the end, however, the Court decided that commentators were hopelessly divided

on the matter.[32]   Moreover, the Court noted that Microsoft failed to claim that anticompetitive

conduct should be assessed differently in technologically dynamic markets.[33]   Thus, the Court

concluded that whether or not the operating system market could be characterized as

"technologically dynamic" would not alter its mission in assessing the alleged antitrust violations

under present Section 2 monopolization doctrine.[34]

---

[27] *See* Betts, *supra* note 1 (manuscript at 3) (stating that, for example, as more people use the fax machine, the more valuable it becomes to all users).
[28] *See id*. (manuscript at 5) (stating that the firm that establishes the industry standard emerges as market leader).
[29] *See id*. (manuscript at 2) (stating that competing firms try desperately to take advantage of rapidly changing technology to become the market leader).
[30] *See* Microsoft, 253 F.3d at 49.
[31] *Id*. (quoting Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1, 8 (2001)).
[32] *See* Microsoft, 253 F.3d at 50 ("[W]e note that there is no consensus among commentators on the question of whether, and to what extent, current monopolization doctrine should be amended to account for competition in technologically dynamic markets characterized by network effects."). One side argues that exclusionary conduct in high-tech networked industries deserves heightened antitrust scrutiny in part because may threaten to deter innovation while the other argues that the presence of network externalities may actually encourage innovation by guaranteeing more durable monopolies to innovating winners. *Id*.
[33] *Id*.
[34] *See id*. ("Whether or not Microsoft's characterization of the operating system market is correct does not appreciably alter our mission in assessing the alleged antitrust violations in the present case.").

IV. Microsoft's Illegal Monopolization

Section 2 of the Sherman Act makes it unlawful for a firm to monopolize.[35]   For a

violation of the Act, one must possess monopoly power in the relevant market and willfully

maintain that power as distinguished from "growth as a consequence of a superior product,

business acumen, or historic accident."[36]

First, the Court examined the relevant product and geographic markets to determine

whether Microsoft possessed monopoly power. After concluding that Microsoft possessed the

necessary power, the Court then determined whether Microsoft maintained its monopoly through

anticompetitive means. The following subsections flesh out the Court's analysis.

A. Monopoly Power

The mere existence of monopoly power is not enough to violate Section 2.[37] However, it

is a necessary element of a monopoly charge.[38] Monopoly power is defined as the ability to

control prices or to exclude competition.[39] Where evidence indicates that a firm has in fact

profitably done either, the existence of monopoly power is clear.[40] Such evidence, however, is

rarely available.   Accordingly, courts more typically infer monopoly power from a firm's

possession of a dominant share of a relevant market that is protected by entry barriers.[41] To

determine market share and barriers to entry, the courts must define a relevant market. "Because

the ability of consumers to turn to other suppliers restrains a firm from raising prices above the

---

[35] *See* 15 U.S.C. § 2 (Supp. IV 2004).
[36] *See* United States v. Grinnell Corp., 384 U.S. 563, 570-71 (1966).
[37] *See* Byars v. Bluff City News Co., Inc., 609 F2d 843, 853 (6th Cir. 1979) (holding that mere possession of monopoly power is not illegal).
[38] *See* Grinnell Corp., 384 U.S. at 570.
[39] See United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377, 391 (1956) ("the power to control prices or exclude competition"). But see Elliott Indus. v. BP Am. Prod. Co., 407 F.3d 1091, 1123-24 (10th Cir. 2005) (defining monopoly power as the power to control prices and to exclude competition).
[40] *See* FTC v. Ind. Fed'n of Dentists, 476 U.S. 447, 460-61 (1986) (using direct proof to show market power in Sherman Act Section 1 unreasonable restraint of trade action).
[41] *See* United States v. Aluminum Co. of Am., 148 F2d 416, 429 (2d Cir. 1945).

competitive level,"[42] the relevant market must include "all products reasonably interchangeable by consumers for the same purposes."[43]

In this case, the Court deferred to the district court when it defined the relevant market as Intel-compatible PC operating systems.[44] The district court defined the market in this way because it found that there "are currently no products--and ... there are not likely to be any in the near future--that a significant percentage of computer users worldwide could substitute for [these operating systems] without incurring substantial costs."[45] While Microsoft argued that this was improper because it excluded non-Intel compatible operating systems, operating systems for non-PC devices, and "middleware" products, the Court indicated that it was bound by the district court's findings because "[Microsoft] failed to challenge the District Court's factual findings, or to argue that those findings did not support the District Court's conclusions."[46] In other words, Microsoft failed to meet the clearly erroneous standard.[47] Thus, the Court was compelled to defer to the lower court's findings of fact.[48]

After deciding that the district court properly defined the market, the Court assessed Microsoft's market share within this defined market. Generally, a firm with ninety percent market share is presumed to be an economic monopolist.[49] In this case, the lower court found

---

[42] Rothery Storage & Van Co. v. Atlas Van Lines, Inc., 792 F.2d 210, 218 (D.C. Cir. 1986).

[43] E.I. du Pont de Nemours, 351 U.S. at 395.

[44] *See* United States v. Microsoft Corp., 253 F.3d 34, 52 (D.C. Cir. 2001).

[45] *Id*.

[46] *Id*.

[47] Under the clearly erroneous standard of review, an appellate court will not disturb the trial court's factual findings except in cases of clear error. Sanpete Water Conservancy v. Carbon Water, 226 F.3d 1170, 1178 (10th Cir. 2000). A finding of fact is clearly erroneous if it is without factual support in the record or if the appellate court, after reviewing all the evidence, is left with a definite and firm conviction that a mistake has been made. *Id*.

[48] *See generally id*. at 52-53 (stating that Microsoft failed to challenge trial courts' findings of fact as to non-Intel compatible operating systems, operating systems for non-PC devices, and "middleware" products).

[49] *See* United States v. Aluminum Co. of Am., 148 F2d 416, 429 (2d Cir. 1945).

that Microsoft possessed more than 95% of the relevant market.[50] Because Microsoft failed to

challenge this finding or to argue that such a market share is not predominant, the D.C. Circuit

upheld the lower court's conclusion of fact.[51] Accordingly, Microsoft was presumed to have

monopoly power in the Intel-compatible PC operating system market.[52]

B. Maintaining Monopoly Power

As discussed above, obtaining monopoly power does not violate Section 2.[53] Rather, the

salient issue is whether standard winning firm abused its market power by illegally maintaining

its monopoly. A firm does this by engaging in exclusionary conduct "as distinguished from

growth or development as a consequence of a superior product, business acumen, or historic

accident."[54] To be deemed exclusionary, a monopolist's conduct must harm the competitive

process.[55]

In this case, Microsoft endeavored to reduce usage of competing internet browsers.[56] By

doing so, Microsoft could protect its operating system monopoly. The reason market share in the

browser market affects market power in the operating system market is complex, and warrants

further explanation.

Browser market share is important because as the number of users of a particular browser

increases, the more attractive that browser becomes to software developers. That is to say, more

software developers will write applications relying upon the application program interface[57]

---

[50] Microsoft, 253 F.3d at 55.
[51] *See id*.
[52] *See id*. at 51 ("[W]e uphold the District Court's finding of monopoly power . . . .").
[53] *See supra* note 37.
[54] *See supra* note 36.
[55] *See* Microsoft Corp., 253 F.3d at 58.
[56] *Id*. at 60.
[57] *See Application User Interface*, *at* WIKIPEDIA.COM,
http://en.wikipedia.org/wiki/Application_programming_interface (last visited Nov. 25,2005) ("One of the primary
purposes of an API is to provide a set of commonly-used functions—for example, to draw windows or icons on the

(API) the browser exposes, and away from the API exposed by Windows.[58] Because applications written utilizing a particular browser's API can run on any computer with that browser, regardless of the underlying operating system, consumers can have access to desired applications simply by installing a particular browser.[59] It may be the case that consumers would no longer feel compelled to select Windows in order to have access to those applications. Therefore, Microsoft's efforts to reduce usage of competing internet browsers served to preserve its monopoly in the operating systems market.

To reduce competing internet browsers, Microsoft primarily placed licensing restrictions on original equipment manufacturers (OEMs). Specifically, the license provisions prohibited the OEMs from: (1) removing any desktop icons, folders, or "Start" menu entries; (2) altering the initial boot sequence; and (3) otherwise altering the appearance of the Windows desktop."[60] The Court held that with the exception of the restriction prohibiting the initial boot sequence, all the OEM license restrictions at issue represent exclusionary conduct violative of Section 2.[61]

V. Conclusion

The unique nature of competition in IT industries has sparked significant debate amongst academics and practitioners over the extent to which Section 2 monopolization doctrine should be changed. This e-Brief, presented an example of one court's struggle with the issue. Despite being faced with a market exhibiting classic network effects, the Court would not alter its

---

screen. Programmers can then take advantage of the API by making use of its functionality, saving them the task of programming everything from scratch.").

[58] *See* Microsoft Corp., 253 F.3d at 60.

[59] *See id*.

[60] *Id*. at 61.

[61] *Id*. at 61-64. The license prohibiting removal of any desktop icons, folders, or "Start" menu entries was exclusionary because it prevented many OEMs from pre-installing a rival browser and, therefore, protected Microsoft's monopoly from the competition that middleware might otherwise present. The license prohibiting alteration of the Windows desktop appearance was exclusionary because it "reduced rival browsers' usage share not by improving Windows but, rather, by preventing OEMs from taking actions that could increase rivals' share of usage." *Id.*

mission in assessing the alleged antitrust violations under the present Section 2 monopolization

doctrine.   Instead, the Court applied traditional monopoly doctrine to find that Microsoft

possessed the necessary market power, and employed this market power to protect its monopoly.