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ABSTRACT

Title: Wintel Under the Antitrust Microscope: A Comparison of the European Intel Case with the U.S. Microsoft Cases, Updated as of June 4, 2009

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The European Union imposed a \$1.45 billion fine on Intel for abusing its dominant position in the x86 CPU microprocessor market and ordered Intel to cease the illegal practices. Intel dominates the PC chip market almost to the same degree that Microsoft dominates the PC operating system market. As in the Microsoft case, Intel's aggressive marketing tactics prevented OEMs from offering rival products to consumers. And like Microsoft, Intel has engaged in this conduct to maintain its existing monopoly. These parallels between the Microsoft and Intel suggest that Intel's anticompetitive practices harm consumers, including American consumers, by denying them the access to innovative products at lower prices from rivals. The United States established that Microsoft repeatedly and willfully violated the antitrust laws, but failed to achieve an effective remedy. The EU's remedy, however, is more likely to succeed. First, unlike the OS market, a viable competitor still exists in the chip market, *i.e.*, AMD. Second, Intel has relied primarily on exclusionary rebates and direct payments, not commingling of intellectual property, to maintain its monopoly. The complications of requiring the monopolist to share information competitors and redesign its product are not present in the Intel case. Consequently, simply compelling Intel to cease its exclusionary practices may suffice to prevent future harm to competition. This paper was prepared in advance of the EU's decision to provide background information for understanding the case against Intel.

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# **Wintel Under the Antitrust Microscope: A Comparison of the European Intel Case with the U.S. Microsoft Cases**

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**UPDATE: June 11, 2009**

On May 13, 2009, the European Union (EU) announced that it assessed a \$1.45 billion fine against Intel Corporation for abuse of Intel's dominant position in the x86 CPU microprocessor chip market.<sup>1</sup> More specifically, the EU found that Intel had engaged in two types of exclusionary conduct.

1. Conditional Rebates and Payments. The EU found that Intel offered rebates to personal computer manufacturers subject to the condition that the manufacturers purchase substantially all of their chips from Intel. Intel also made direct payments to a major European retailer subject to the condition that the retailer carry only computers with Intel chips.
2. Pay-for-Delay. As Neelie Kroes, the European Commissioner for Competition Policy, stated at a press conference regarding the decision, "Intel made direct payments to computer manufacturers to halt or delay the launch of products using their rival's chips, and to limit their distribution once available."<sup>2</sup>

The EU found that Intel's conduct harmed consumers by denying the benefits of innovation and choice offered by competing chips. In addition to the fine, the largest ever imposed by the EU for anticompetitive conduct, the EU ordered Intel to cease its anticompetitive conduct.

The following working paper was drafted just prior to the EU's decision to provide background information regarding the claims against Intel. In addition to looking at the then pending allegations in the EU, the paper examines earlier decisions by the Japanese and South Korean competition authorities against Intel as well as the private antitrust lawsuit filed against Intel by its rival in the x86 CPU market, AMD.

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<sup>1</sup> See Antitrust: Commission Imposes Fine of 1.06 Billion Euros on Intel for Abuse of Dominant Position; Orders Intel to Cease Illegal Practices - Questions and Answers, (May 13, 2009), <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/235&format=HTML&aged=0&language=EN&guiLanguage=en>; Antitrust: Commission imposes fine of €1.06 bn on Intel for abuse of dominant position; orders Intel to cease illegal practices (May 13, 2009), <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/745>.

<sup>2</sup> See Neelie Kroes, European Commissioner for Competition Policy, Commission Takes Antitrust Action Against Intel, Introductory Remarks at Press Conference (May 13, 2009), <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/09/241&format=PDF&aged=0&language=EN&guiLanguage=en>.



## Introduction

The European Union (EU) has issued a statement of objections, followed by a supplemental statement of objections, to Intel Corporation (“Intel”) regarding the company’s conduct in the market for server and personal computer (PC) x86 microprocessor chips aimed at suppressing competition from Intel’s chief rival, Advanced Micro Devices (AMD), and a decision on the remedy is expected soon now that Intel’s request for a delay has been denied.<sup>3</sup> Although the statement of objections remains confidential for now, the EU has indicated that the objections concern three types of conduct by Intel: (1) rebates conditioned on the agreement of original equipment manufacturers (OEMs) to purchase most, if not all, of their chips from Intel, (2) payments to OEMs to scuttle or delay the launch of products using AMD chips, (3) selling chips below cost to strategically important customers.<sup>4</sup>

In the United States, AMD’s private lawsuit against Intel under the antitrust laws has been scheduled for trial in 2010, and consumer class actions have been filed against Intel in Delaware and Idaho. The Federal Trade Commission and the Attorney General for the State of New York have also begun investigations of Intel.

The Japanese<sup>5</sup> and South Korean<sup>6</sup> Fair Trade Commissions have already found that Intel violated their competition laws. Intel accepted the Japanese recommendation to remove restrictions with Japanese OEMs regarding the use of chips from Intel’s competitors.<sup>7</sup> South Korea has fined Intel 25 million U.S. dollars as a result of rebates that Intel paid to two OEMs in exchange for their agreement not to use AMD chips.<sup>8</sup>

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<sup>3</sup> See European Commission, Antitrust: Commission Welcomes CFI President’s Dismissal of Intel’s Request for Interim Measures (Jan. 27, 2009), <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/29&format=PDF&aged=0&language=EN&guiLanguage=en>.

<sup>4</sup> See European Commission, Competition: Commission Confirms Sending of Statement of Objections to Intel, (July 27, 2007), <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/07/314&format=HTML&aged=1&language=EN&guiLanguage=en>; European Commission, Antitrust: Commission Confirms Supplementary Statement of Objections Sent to Intel (July 17, 2008), <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/517&form>.

<sup>5</sup> See Japan Fair Trade Commission, The JFTC Rendered a Recommendation to Intel K.K. (Mar. 8, 2005), <http://www.jftc.go.jp/e-page/pressreleases/2005/March/050308intel.pdf>.

<sup>6</sup> For a summary of the the South Korean Fair Trade Commission’s findings, see Republic of Korea Fair Trade Commission, Corrective Measures Against Intel’s Abuse of Market Dominance (Aug. 8, 2008), [http://eng.ftc.go.kr/bbs.do?command=getList&type\\_cd=18](http://eng.ftc.go.kr/bbs.do?command=getList&type_cd=18).

<sup>7</sup> Intel Corporation, Intel Agrees to Comply with JFTC Recommendation; Disagrees with Findings of Fact (Mar. 32, 2005), <http://www.intel.com/pressroom/archive/releases/2005/20050331corp.htm>.

<sup>8</sup> Intel has filed a complaint against the South Korean FTC seeking to overturn the fine. Don Clark, *Intel Challenges South Korea Antitrust Ruling*, The Wall Street Journal, Dec. 9, 2008, <http://online.wsj.com/article/SB122887312856993515.html>.

Despite the confidential status of the EU's statement of objections and the open investigations, the objections ultimately resulted from concerns that AMD lodged with the EU and the EU's announcements regarding its proceedings suggest its concerns are similar to the findings reached by the South Korean Fair Trade Commission (KFTC). Therefore, we can use AMD's allegations in its private antitrust lawsuit against Intel in the United States<sup>9</sup> and the KFTC's findings as reasonable bases for providing the missing details. For purposes of this discussion, we will accept AMD's allegations and the KFTC's findings as truthful, even though that is, of course, for courts and regulatory agencies to determine. The question is, if the facts are proven to be as alleged by AMD, what are the implications for competition policy?

Intel dominates the PC chip market almost to the same degree that Microsoft dominates the PC operating system (OS) market (many refer to the two companies collectively as "Wintel"). As in the Microsoft case, Intel's aggressive business practices prevented OEMs from offering rival products to consumers. And like Microsoft, Intel has engaged in this conduct to maintain its existing monopoly. Microsoft's conduct served as the basis for two antitrust actions by the United States Department of Justice. (It should also be noted that the EU's Court of First Instance has upheld the European Commission's decision that Microsoft abused its dominant position by refusing to supply competitors with information needed for interoperability of their products and by tying the Windows Media Player to the Windows OS.)

These parallels between the Microsoft and Intel cases suggest that Intel's anticompetitive practices harm consumers, including American consumers, by denying them volume access to innovative products at lower prices from rivals. Furthermore, just as intellectual property rights did not trump antitrust law concerns in the Microsoft case, so too intellectual property should not provide a license for Intel to engage in anticompetitive practices. Indeed, unlike Microsoft, which engaged in predatory conduct in the browser market in order to maintain its monopoly in the OS market, the conduct at issue in Intel involves relatively mundane marketing, pricing and denial of access activities with rather clear-cut exclusionary effects.

A successful outcome in the EU's case against Intel must include an appropriate remedy. The United States established that Microsoft repeatedly and willfully violated the antitrust laws, but failed to achieve an effective remedy. The EU, however, should have an easier time achieving an effective remedy. First, unlike the OS market, a viable competitor still exists in the chip market, *i.e.*, AMD. Second, Intel has relied primarily on exclusionary rebates, not commingling of intellectual property, to maintain its monopoly. Consequently, the EU will be able to fashion a remedy that does not impinge on product design freedom.

## **Background: The Microsoft Cases**

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<sup>9</sup> A selection of the court documents are publicly available at AMD's website. See Court Documents, [http://www.amd.com/us-en/Weblets/0,,7832\\_12670\\_13255,00.html](http://www.amd.com/us-en/Weblets/0,,7832_12670_13255,00.html) (last visited May 8, 2009).

The United States Department of Justice brought two monopolization cases against Microsoft. The first case, settled by consent decree in 1995, focused on the tactics used by Microsoft to monopolize the OS market, and the second case, settled in 2001, focused on the tactics Microsoft used to maintain its OS monopoly. (Although the second Microsoft case focused on the “browser wars,” the government established that Microsoft engaged in anticompetitive practices not to monopolize the browser market but to maintain its OS monopoly, *i.e.*, if Microsoft achieved a monopoly position in the browser market, then browsers would not eventually compete against Windows as an alternative platform for software development.) The Court of Appeals upheld the District Court’s finding in the second case that Microsoft had illegally maintained its Windows monopoly.

### **Market Characteristics**

PCs are commodities. With the exception of Apple, there really is no substantial differentiation among OEMs. For all practical purposes, Dell, HP, and IBM sell servers that are substantially identical. Regardless of the brand, all PCs run Microsoft’s Windows OS and have a Central Processing Unit (CPU) microprocessor chip based on Intel’s x86 instruction set. All of the software and hardware must work with the OS and the CPU. This has resulted in standardization of the basic components of the PC across OEMs. Consequently, OEMs, who have little choice but to compete aggressively on price, have razor thin profit margins, making them highly susceptible to price-related conditions imposed by either Microsoft or Intel.

Both the OS and the chip markets are characterized by network effects, *i.e.*, the more people who use a particular firm’s product, the more attractive that product becomes. Although it is true that the manufacturing costs (both fixed and variable) of microprocessors are higher than those of software, both the OS and the chip markets have high fixed costs in the form of research and development.

### **Relevant Markets**

The relevant markets in the Microsoft cases consisted of web browsers and operating systems for PC’s with CPU chips based on Intel’s x86 instruction set. Intel competes in the market for the x86 instruction set CPU microprocessor chips. Geographically, both Microsoft and Intel compete in global markets.

### **Market Shares**

With a market share in excess of 90%, Microsoft has no significant competitors in the PC OS market. (Apple’s current line of computers can run Microsoft Windows, but PCs manufactured by other OEMs cannot run Apple’s OS.) Intel, however, faces one potentially significant competitor in the CPU chip market, AMD. Intel has a revenue market share in excess of 80%, while AMD, its closest rival, has a market share of less than 20%.

## **Barriers to Entry**

Microsoft enjoyed an extremely high applications barrier to entry in the PC OS market. To compete effectively, an alternative OS would have to either run existing Windows software or enter the market with a similar array of its own software. Since existing applications used Microsoft's proprietary Application Programming Interfaces (APIs), intellectual property law prevented the former means of entry, and the volume of applications needed for the latter form of entry rendered it infeasible.

Netscape, especially in conjunction with Java, offered a means of surmounting the applications barrier to entry by offering software developers a new set of APIs that would allow applications to run on any OS, including Windows. The U.S. case revolved around Microsoft's efforts to preserve the applications barrier to entry from the threat posed by Netscape.

Potential entrants into the chip market face a similar and probably higher barriers to entry. The costs of building and upgrading the fabrication plants to manufacture the chips are enormous. New entrants would also need to license intellectual property from Intel in order to produce and sell x86 instruction set processors. Otherwise, the new entrant's chips would not work with Windows or other existing PC software and hardware, and the new entrant would need the cooperation of much of the hardware and software industry, including Microsoft, to rewrite their applications to run on a different instruction set. These new applications would have to read and write files compatible with the applications on the installed base of Wintel PCs. When IBM designed its original PC in the early 1980s, IBM had sufficient power to require Intel to license the x86 instruction set to AMD, so that it would not be compelled to rely upon a monopoly supplier of a critical input. No OEM today has sufficient power today to require Intel to license a rival to enable it to be an alternative source in the market.

## **Microsoft and Intel Have Durable Monopolies**

The Wintel duopoly defies the conventional wisdom that monopolies are temporary phenomena because high profits attract new entrants into a market. To break down the Wintel duopoly would require a paradigm shift in the information technology market.

Historically, the computer industry has in fact already gone through three paradigm shifts. The original "Mainframe" paradigm gave way in the 1980s as "Desktop" personal computers became increasingly powerful, inexpensive and ubiquitous. In the mid-1990s the "Desktop" paradigm gave way to the "Internet" paradigm as computers increasingly became a device for the receipt and distribution of information ranging from email to multimedia.

Although it did not threaten Intel, the paradigm shift from desktops to the Internet provided what may have been a unique opportunity for market forces to topple Microsoft's OS monopoly. Netscape browser emerged as the tool for using the Internet, and the browser was OS neutral. Java emerged as an OS neutral programming environment that worked with the browser. Yet Microsoft survived what could have been



the “Perfect Storm,” thanks in large part to its successful efforts at preventing the web browser from developing into a competing platform.

Like Microsoft, Intel achieved its monopoly with the paradigm shift from mainframes to desktops. In both instances, IBM chose their products for its PC and most of the rest of the industry soon followed.

Nothing better illustrates the durability of the Intel x86 monopoly than its own failed attempt to move OEMs to the Itanium microprocessor, a new Intel chip not based on the x86 instruction set. This would have resulted in a radical change in the PC hardware since the Itanium replaced x86’s 32-bit Complex Instruction Set Computing (CISC) architecture with a completely new 64-bit Explicitly Parallel Instruction Computing (EPIC) architecture developed jointly by H-P and Intel. The new architecture did not run existing applications. Even though Microsoft ported Windows to the new chip, it did not enjoy widespread adoption.

While Intel attempted to shift the PC industry away from its own x86 instruction set, AMD developed new 64-bit chips based on the x86 instruction set, the Opteron and the Athlon64. Unlike Intel’s Itanium chips, AMD’s chips ran *both* the installed base of 32-bit x86 applications and new applications that took advantage of the 64-bit architecture. Intel reacted to AMD’s innovation not only by belatedly developing its own 64-bit x86 chip, but also by engaging in anticompetitive tactics to prevent OEMs from migrating to AMD’s technologically superior chips.

The efforts of each firm to generate competition in the other’s market also illustrates the durability of their monopolies. Microsoft has actively supported AMD’s chip innovations with AMD-customized Windows editions; Intel has actively sponsored and subsidized white-box OEMs employing Linux for the OS. Intel also actively supported JAVA, at least until Microsoft coerced an end to it.

### **Microsoft’s Anticompetitive Tactics**

Most of the attention has focused on Microsoft’s bundling of the web browser into the OS, but the United States litigation against Microsoft also identified a variety of other tactics to prevent competing products from reaching consumers, including:

- “Per processor” licenses which required OEMs to pay Microsoft a royalty even if they substituted a competing OS on a PC;
- Large minimum commitments to install Microsoft products which could exceed the total number of PCs that an OEM expected to sell;
- Long term contracts with OEMs which effectively prevented them from switching OS suppliers for several years at a time;
- Distribution of a “polluted” form of the JAVA programming language without warnings that MS’s JAVA did not readily create applications that would run on competing platforms;
- Threatened retaliation against Apple;

- Denial of access to information necessary for OEMs and ISVs to develop compatible products on a timely basis if they dealt with competing products; and
- Retaliation against OEMs who did not cooperate with Microsoft.

The anticompetitive effect of this conduct, especially with regard to Microsoft's web browser, was somewhat complex. The 1995 consent decree prohibited Microsoft from continuing to use the first three types of restraints, all of which directly excluded competition from the OS market. The second lawsuit dealing with the browser, however, focused not on the browser market, but rather the anticompetitive effect in the OS market caused by Microsoft's tactics in the browser market.

### **Intel's Alleged Anticompetitive Tactics**

On July 27, 2007, the EU confirmed that it had sent a Statement of Objections to Intel,, and the EU expanded its objections on July 17, 2008. The objections find that Intel abused its dominant position and excluded AMD from the market by using:

- Rebates to OEMs conditional upon their purchase of all or nearly all of their CPU chips from Intel;
- Payments to at least one OEM to delay or cancel a product line using AMD chips; and
- Below cost sales to strategic customers.

In response to similar concerns, the Attorney General for the State of New York began an investigation of Intel's conduct in January 2008.<sup>10</sup> The U.S. Federal Trade Commission has also started an investigation after considerable delay and hesitation.<sup>11</sup> Compared to Microsoft, the conduct at issue is relatively straightforward. Given the razor thin profit margins of OEMs, they can hardly refuse to take advantage of the inducements offered by Intel. Put another way, they cannot risk discriminatory price retaliation or other punitive business terms that would disadvantage them against more "loyal" competitors. Payment not to use AMD chips directly excludes AMD from competing in the marketplace. While below cost pricing is controversial in American antitrust law, the controversy primarily concerns whether such pricing occurs in a particular instance, not its anticompetitive effect.

### **First Dollar Rebates**

The first type of conduct is particularly insidious in its effect on competition. Although the EU has not disclosed the specific types of rebates to which it has objected, the EU presumably objects to the same "first dollar discount" rebates that are the subject of

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<sup>10</sup> Press Release, Office of the Attorney General, Attorney General Cuomo Launches Antitrust Investigation of Intel (Jan. 10, 2008), [http://www.oag.state.ny.us/media\\_center/2008/jan/jan10a\\_08.html](http://www.oag.state.ny.us/media_center/2008/jan/jan10a_08.html).

<sup>11</sup> Stephen Labaton, *In Turnabout, Antitrust Unit Looks at Intel*, The New York Times, June 7, 2008, <http://www.nytimes.com/2008/06/07/technology/07chip.html>.

AMD's U.S. lawsuit against Intel. These types of rebates/discounts have been severely criticized. As alleged by AMD, the OEMs do not receive a quantity discount in steps. Instead, OEMs receive a rebate on the last chip purchased. So if Intel sets a quota of 100 chips for an OEM and the OEM uses only 99, then that OEM receives no discount. Without the Intel rebate, the OEM may not make a profit on any of its sales. Intel sets the quota based on the particular OEM's capacity and/or projected sales. Consequently, an OEM will consider purchasing AMD chips only to the extent that its anticipated sales and manufacturing capacity exceed Intel's quota.

For example, assume that an OEM has a manufacturing capacity of 101 PCs and receives a \$100 rebate from Intel if and only if the OEM installs Intel chips on at least 100 PCs. The OEM will purchase no more than one AMD chip. If AMD wants to sell the OEM two chips, then AMD must give the OEM a \$100 rebate to the OEM. Intel can spread the cost of the rebate over 100 chips, *i.e.*, the rebate costs Intel \$1 per chip, but AMD can only spread the cost of the rebate over two chips, *i.e.*, the rebate costs AMD \$50 per chip.

As a working paper by Robert Lande noted, these rebates can exclude AMD even if its price per chip is lower than Intel's:

Imagine that Acme Computer buys 10 chips a month from Intel at \$8 each. Suppose AMD wanted to sell chips to Acme, and offered to sell it 2 chips at \$5 each. These lower AMD prices certainly would be beneficial for competition and consumers.

Suppose, however, that when Acme turned to Intel for the remaining 8 chips it needed, Intel replied that its prices had increased to \$10 per chip, but that if Acme purchased all 10 chips from Intel, their price would still only be \$8 each.

Acme would quickly calculate that  $\$8 \times 10 = \$10 \times 8$ . In other words, under Intel's new pricing plan it is giving away the last two chips for free. It would make no sense for Acme to purchase any chips from AMD for \$5 each, or even for 1¢ each. From Intel's perspective it still gets the same \$80 from Acme Computer. In addition, its carefully designed "discount" has excluded [AMD despite AMD's lower price per chip].<sup>12</sup>

By confining AMD to a small market share, the Intel rebate structures also may have a detrimental effect on innovation since AMD must spread its fixed costs of research and development over much smaller unit and dollar sales. In this respect, it is important to remember that it is only because of AMD's innovation that consumers could take advantage of new 64-bit applications without having to give up their existing 32-bit applications. Intel now makes a 64-bit x86 chip, but it does so only as a result of competition from AMD. It would appear that if Intel is permitted to counter innovation by a competitor through first-dollar discounting, there is little likelihood that the competitor will be able to continue to invest in innovative products, because there will be no payoff for successful innovation.

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<sup>12</sup> Robert H. Lande, *Intel's Alleged Schemes Affected U.S. Customers*, 1-2 (University of Baltimore Leg. Stud. Res. Paper No. 2008-10) available at <http://ssrn.com/abstract=1145327>.

The Japanese and South Korean FTCs each found that Intel's payments to OEMs in exchange for the OEMs refusal to use AMD chips violated that their respective competition laws.<sup>13</sup> Of course, a rebate conditioned on the exclusive use of Intel chips effectively constitutes a form of exclusive dealing, and the U.S. District Court in the Microsoft case rejected the claim that Microsoft had engaged in exclusive dealing, albeit due to the government's failure to properly define a relevant market at trial rather than a lack of harm to within the relevant market.

### **Delay or Cancellation of Product Lines Using AMD Chips**

While it might seem difficult to see Intel's payments to an OEM to prevent or delay the introduction of a product line that uses a competitor's chips as anything other than a naked restraint of trade, one could also characterize the conduct as simply another form of exclusive dealing.

### **Below Cost Sales to Strategic Customers**

The predatory pricing claims against Intel have no parallel in the Microsoft case. Predatory pricing under American antitrust law requires proof of below-cost pricing *and* the ability of the defendant to recoup the losses suffered during the period of below-cost pricing.<sup>14</sup> Given the high barriers to entry and the very low marginal cost chip production, Intel would likely be able to recoup its losses from below-cost pricing if AMD exited the market.

More problematic, however, is whether Intel has engaged in below-cost pricing. The conclusion may depend on how one characterizes the application of the discount. The two major costs in the manufacture of a microprocessor chip are largely fixed: the cost of design and the cost of building the manufacturing plant. The lowest average total cost is achieved by selling the entire output of existing plant capacity. Nonetheless, the average variable cost of a microprocessor chip cannot be zero. Although the rebates are calculated as a discount per processor purchased, the rebates are really part of the price of purchases which trigger the rebates and the price of those purchases may well be below average variable cost. Indeed, it is possible, perhaps even likely, that the actual price of the chips which trigger the rebates may be at or below zero.

### **Intellectual Property Concerns**

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<sup>13</sup> See Kyung Bok Cho and Mark Lee, *Intel Fined in South Korea for Antitrust Rules Breach (Update3)*, Bloomberg.com, June 5, 2008, <http://www.bloomberg.com/apps/news?pid=conewsstory&refer=conews&tkr=INTC:US&sid=a2mpgvYbaE1M>; Joe Nocera, *Talking Business: A.M.D. and Its War With Intel*, *The New York Times*, <http://www.nytimes.com/2008/06/21/business/21nocera.html?pagewanted=print>.

<sup>14</sup> See *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993).

The products at issue in both the Microsoft and Intel cases enjoy protection under intellectual property law. To date, however, neither the courts in the United States nor the EU have accepted the argument that intellectual property concerns exempt Microsoft from liability for its anticompetitive conduct. Intellectual property concerns should play no role in the Intel case since AMD has a license to the x86 instruction set, and unlike the Microsoft case, the Intel case is not about denial of access to intellectual property. However, the fact that no new entrant is likely to receive a similar license means that the microprocessor market is likely to remain on a world stage as either a duopoly or a monopoly.

## **Remedies**

An effective remedy will be critical to the success of the EU's case against Intel. Notwithstanding the fact that the United States proved that Microsoft violated Section 2 of the Sherman Act and that the United States Court of Appeal for the District of Columbia unanimously upheld this judgment on appeal, the conventional wisdom suggests that the U.S. lost the Microsoft case because the complex conduct remedy has proven ineffective. After all, Microsoft's illegally maintained OS monopoly remains as firmly entrenched as ever.

Fashioning an effective remedy in the Intel case should not prove nearly as difficult. The conduct at issue is much simpler. An order from the EU directing Intel to cease the specific rebate and pricing activities as well as prohibiting Intel from paying OEMs to delay or not to use competitors' products should prove effective and relatively easy to enforce. In its announcement confirming that a Statement of Objections had been sent to Intel, the EU indicated that it would seek such a remedy. Similar prohibitions against Microsoft in the 1995 consent decree were insufficient not because Microsoft failed to obey them, but because Microsoft had the ability to switch to other tactics, *i.e.*, bundling products and denying competitors in other markets access to critical information about the OS. It bears noting that although there are significant differences between the U.S. and the EU cases against Microsoft, the EU's push for unbundling and stringent conduct remedies was upheld by its Court of First Instance, and Microsoft has decided to comply with the remedies rather than appeal the Court's decision.

## **Conclusion**

The allegations against Intel do not involve an unusual legal or economic theory. Rather, U.S. law has consistently condemned this type of exclusionary conduct as anticompetitive, including similar conduct in the Microsoft cases. More specifically, a growing body of cases and academic literature has denounced first dollar discounts.

Most importantly for the world's consumers, the anticompetitive effects of Intel's misconduct have been felt on a global basis. Japan, Korea and now the EU have taken action to stop Intel's anticompetitive conduct in their jurisdictions.

Americans, no less than the Japanese, Koreans and Europeans, have a stake in protecting competition in the PC microprocessor market, and the opening of investigations by the FTC and the New York Attorney General may signal a recognition of the importance of

this case to American consumers. The benefits to consumers everywhere include not only lower prices but also more innovations. Indeed, history has shown that technological rivalry in this market provides direct benefits to consumers in the form of products that would not have existed otherwise.

The dominance of the Wintel duopoly may continue, but that is no reason not to protect and promote competition where possible. To date, the EU has pursued the most successful public actions against the anticompetitive practices of Microsoft and Intel. It remains to be seen whether the ongoing investigations by the FTC and the New York Attorney General will result in any formal public enforcement action against Intel in the U.S., although as outlined by this paper, the publicly available evidence suggests that a strong case against Intel exists. Regardless of any public enforcement actions, American antitrust law will have an important role to play since private litigation by AMD and at least one class action on behalf of consumers have been filed in the U.S. courts.<sup>15</sup> These cases serve as a reminder of the critical and increasing importance of private actions under U.S. antitrust law. So there is a “happy” balance of sorts: the EU is currently outperforming the U.S. on public enforcement while the U.S. outperforms the EU on private enforcement. Consumers on both continents benefit from the complementary strengths of these different antitrust regimes.

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<sup>15</sup> Brendan Pierson, *Intel Faces Another Antitrust Class Action*, Competition Law 360, Jan. 18, 2008, <http://www.law360.com/articles/44660>.