

Monopolization and the Fading Dominant Firm

Timothy F. Bresnahan
Stanford University¹

1. Monopolization and the Fading Dominant Firm

From time to time a dominant firm, however innovative or competitive it may once have been, loses the capability advantages that brought it earlier success. This does not necessarily mean that the dominant firm has lost *capabilities*. If innovative outsiders' capabilities pass the dominant firm's, that can remove its capability *advantages*. This can occur when the technological or market basis of the industry is changing, or when the specific set of technologies, strategies, or business models chosen by the dominant firm are beginning to be eclipsed by innovative ideas from outside. This familiar industry situation is the fading dominant firm.²

Industries with a fading dominant firm need not be a problem for society if creative destruction competition offers consumers a choice between the old and the new. Consumers benefit from that increased choice. Further, as Schumpeter (1942) pointed out, consumers benefit if either creative destruction literally replaces the old with the new or if the mere threat of creative destruction gives existing dominant firm a powerful incentive to catch up to entrants in productive or innovative capabilities. That incentive to rebuild capability advantages within the dominant firm are a consumer benefit of creative destruction competition. Unfettered creative destruction competition is accordingly important to consumer welfare gains and to economic growth.

Sometimes a fading dominant firm's strategy facing the threat of creative destruction competition will be to block the new competition. The anticompetitive goal of the fading dominant firm will be to extend its existing monopoly power into the future and/or into new product markets. Just as creative destruction competition is important to consumer welfare gains and to economic growth, efforts to block creative destruction competition by a fading dominant firm deserve careful scrutiny by antitrust enforcers.

In these notes, I first take up the economics of industries with a fading dominant firm. I then turn to antitrust analysis of monopolization in such industries in general. My final topic is the US and EU monopolization cases against Microsoft.

1.1. Industry Analysis

The possibility of creative destruction begins when an outsider – often an entrepreneurial firm or a firm in another industry, but in any case not the dominant firm – innovates in a fading dominant firm's industry. When that happens, a fading dominant firm will often have positional

¹ The author is the Landau Professor of Technology and the Economy at Stanford University, and served as the Chief Economist of the Antitrust Division of the US Department of Justice, working on, among other matters, the US Microsoft case.

² The literature on the response of established dominant firms to outside innovation is enormous. Bresnahan, Greenstein, and Henderson (2009) has links to this literature and contains a discussion of Microsoft's organizational response to the outside innovations linked to mass market use of the Internet.

advantages, such as barriers to entry in its existing product markets or slow-to-replicate assets such as relationships with customers.³ The combination of a fading dominant firm's positional advantages and its lack of capabilities leadership can create circumstances in which preventing competition from outside innovators is a profitable strategy.

Innovative entrants will not necessarily succeed quickly or broadly when a fading dominant firm has positional advantages. Instead, innovative entrants may have partial successes by using new technologies and/or opening new markets or niches, while the fading dominant firm, at least initially, persists in its traditional business.⁴ These partial successes can be new horizontal niches badly served by the existing dominant firm's products or new complementary products. For example, the entrepreneurs who founded the PC business served new horizontal niches badly served by existing firms like IBM, while the entrepreneurs who commercialized the web browser added new complementary products to the by-then-established PC.

Fading dominant firms faced with some partial initial success by outside innovators have a profit motive to stop or reverse the trend toward creative destruction. One possibility is that the dominant firm regains capability leadership. This is all the more likely when the dominant firm's positional advantages offer it a temporary respite from competition. Then the dominant firm can imitate the products and technologies of innovative outsiders and attempt to catch up to them in the markets they have pioneered. The other way to stop or reverse a trend to creative destruction is to block the outsiders' opportunities for competitive success.

1.2. Fading Dominant Firm Strategic Position and Strategies

Those general strategic imperatives are related to market outcomes. The perspective of the fading dominant firm's strategic goals can be understood in terms of three polar cases: expropriation, continuation, and competition. I introduce these polar cases to illustrate the failure of the "one monopoly rent" "theorem" in the case of technologically dynamic industries.

The best profit outcome for the fading dominant firm is if it can expropriate the return to the outsiders' inventions. The worst outcome for the fading dominant firm is if the initial partial successes of outsiders grow into creative destruction competition. In between are a range of outcomes in which the dominant firm's monopoly continues but is largely limited in scope to the older markets in the industry it has long dominated, while new growth markets come to be more and more associated with the products of innovative outsiders.

The fading dominant firm can earn a rent above and beyond the rent in its traditional business if it expropriates the return to innovative outsiders' inventions. This additional rent exists whether the incumbent dominant firm expropriates the returns by fair means for fowl. If it can regain its capability advantages, the dominant firm could imitate the innovations and undertake a program of successful competition on the merits in the new product markets. Such competition (if successful) fulfills the dominant firm's goals and (whether successful or not) fulfills society's Schumpeterian goal of giving consumers choice between the old and the new firm.

³ "Entry barriers" are a subset of "positional advantages." An entry barrier is a cost which incumbents did not have to bear and entrants must. Positional advantages include situations in which entrants would have to make investments to catch up to a dominant firm. Both entry barriers and positional advantages can limit the effectiveness of entry and new competition.

⁴ A fading dominant firm's profits or sales need not decline despite the loss of capabilities leadership. The positional advantages may even lead to increases over time in sales and profits; the right comparison is not over time, but to the growth in sales and profits which would occur if the firm were as innovative and competitive as the best alternatives – which may be outsiders lacking the positional advantages.

The dominant firm can gain the same rent but faces a strategic problem when customers prefer the outsiders' products. In that case, expropriation of the return to the outsiders' inventions requires compulsion – blocking free consumer choice of the new product. Absent free consumer choice, the fading dominant firm's variant of the new product will earn much of the innovative rent that would have gone to the outsiders' products. Gaining those rents can offer considerable return to the dominant firm, so that the one monopoly rent “theorem” fails.⁵

The prospect that outside innovators' initial partial success spreads through the industry and results in competition in the fading dominant firm's traditional markets is a potential profit disaster for the incumbent. There is a powerful profit motive to block this development. The return is the difference between continuing to enjoy monopoly profit versus falling to competitive profit. Competition on the merits against the outsider's products is one strategy to earn this return. If it fails, the fading dominant firm has a powerful profit motive to compel customers to “choose” the dominant firm's preferred list of products and technologies.

Innovation by outsiders that opens up new growth markets (or market segments) becomes a problem for a fading dominant firm if, over time, profits in its industry come to be more and more associated with the products of innovative outsiders over time, while its own monopoly continues but is limited in scope to the longer-established markets in the industry. The problem is not that there is an immediate competitive threat, but that future profits are lost. This “neutral” outcome is worse than success at expropriating the returns to the outside innovations but better than an outbreak of creative destruction competition which destroys the rents to the fading dominant firm's existing product lines.

Strategies which move the industry either from the “continuation” mode to the “expropriation” mode or from the “competitive” mode to the “continuation” mode are profitable for the facing dominant firm. The profit to be earned in either case exists whether the strategy to gain it consist of innovation and competition on the merits or compulsion of customer choice. In either case, the one monopoly rent “theorem” fails.

The strategic goals of a fading dominant firm that must block outsider's opportunities for competitive success in order to maximize profits can be analyzed in general. Broadly, the goals will be to avoid creative destruction (in actuality or in threat) and to extend monopoly or dominance over time and (in product space) to the new markets and technologies introduced by innovative outsiders.

1.3. Tactics without Rebuilt Capability Advantages

I now focus more narrowly on the case in which the fading dominant firm cannot rebuild its capability advantages quickly enough to reach its strategic goals by competition on the merits. In general, the fading dominant firm has an incentive to compel customers and to avoid market choice either to move away from an outcome in which there is outright creative destruction competition or to move from the “continuation” outcome towards expropriating the returns on

⁵ It is quite surprising that many otherwise lucid scholars believe that the second rent can exist only if the dominant firm seeks to compete for it on the merits, and that it somehow cannot exist if the dominant firm seeks to expropriate it by restricting consumer choice. This is an elementary error, as the existence of the second rent is a distinct subject than the tactics used to expropriate it. The error was corrected many decades ago in Economics, and careful scholarship is now beginning to correct it in Law; for the latter, see Elhauge (2009).

the outsiders' innovations. While much can be said about a fading dominant firm's strategic goals, less can be said in general about the tactics they will use.⁶

The key asymmetry which gives a fading dominant firm the opportunity to limit customer choice is its position of incumbency. If the dominant firm's existing products are important to customers in the present, and if the dominant firm can find a way to link consumer choice among the new products to access to those existing products, it can limit choice. This is the use of positional advantages to tie out competitive choice. In dynamic industries, tying out competitive choice in the present can be highly valuable to the dominant firm in limiting competition in the future. The exact tactics may involve limiting the options of consumers directly, or limiting the options of complementors (such as distribution channel participants) or limiting the options of firms that are both complementors and competitors. The exact tactics depend on the details. Broadly, however, the fading dominant firm faced with innovation in competitively relevant complementary products is well served in its anticompetitive goals to present consumers with a system of connected products, and to tighten up the linkages among the products when the occasion to limit competition arises.⁷

1.4. Consumer and Antitrust Policy Perspective

I now turn to antitrust policy analysis. At this stage, I hope it is obvious why I began with industry analysis and only now turn to antitrust analysis. Antitrust analysis of monopolization is in many ways far easier in the case of a fading dominant firm. A fading dominant firm facing the threat of new competition and lacking the capabilities to compete or innovate successfully on the merits monopolizes when it excludes or restricts new entrants.⁸ Blocking consumer choice of new products and technologies is the antitrust injury in the small; preventing creative destruction competition is the antitrust injury in the large.

Invention by outsiders makes monopolization by a fading dominant firm be problematic for a number of reasons. (1) Reduction of consumer choice between old and new views of the direction of technical change for the industry is directly a loss of competitive innovation. (2) Expropriation of outsider's inventions by incumbent dominant firms reduces the incentive to invent. (3) When the newest inventions are in new markets complementary to the existing dominant firm's monopoly, feasible innovation competition in those new markets may be lost even in circumstances where competition in or for the monopoly market is infeasible.

Of course, proper antitrust analysis does not view the existing dominant firm's monopoly as illegal. Similarly, the positional advantages of a fading dominant firm are not to be condemned. Nor are efforts by the existing dominant firm to compete on the merits against innovative

⁶The specific tactics used by a dominant firm to prevent competition will depend on the industry's structure, technology, distribution, customers, and other complex factors. As a result, it is difficult to say much about these tactics in a broad overview. The key to antitrust understanding of an exclusive contract is not that it is a contract; the key to antitrust understanding of a tie is not that it is a tie; and so on. The key to understanding the antitrust logic of an exclusionary act is the impact (if any) of the act on competition.

⁷Of course, such a strategy can involve tolerance of many outsider innovative products as long as those products raise demand without raising long run competitive threats or offering an opportunity for expropriation so attractive it overcomes the private profit loss from any resulting deterrence of outsider innovation.

⁸I will not offer a legal analysis of monopolization or abuse of dominance in this note but stick to the economic analysis of these phenomena. I note later that this economic analysis has been consistent with antitrust policy. Carlton and Waldman (2002) is a useful reference for the bridge between economics and law with regard to preserving market power strategically in industries which are changing over time.

entrants a problem for competition policy.⁹ It is monopolization, not monopoly, that is problematic under the antitrust laws. An obvious corollary is that goading a fading dominant firm back to innovativeness is a job for market forces, not for regulation.¹⁰

There is a policy problem in antitrust of identifying true monopolization so as to avoiding putting an unintended penalty on a dominant firm's past success. This problem is much lessened with a fading dominant firm, which draws policy attention by its failure to compete on the merits in the present rather than its successes in the past.

Another sometimes-difficult policy problem in antitrust arises when the tactic used to exclude are "vertical" contracts. It can be difficult to discern efficient contracts between complementors from exclusionary contracts, and many have suggested that the one monopoly rent "theorem" starkly limits the circumstances in which monopolization can be profitable. With a fading dominant firm, the assumptions of the one monopoly rent "theorem" fail. A second monopoly rent is introduced into the fading dominant firm's problem either from expropriating the rents to the inventions made by outsiders or from ensuring that the scope of monopoly covers new growth markets. Similarly, delaying new creative destruction competition (or lowering its probability) makes the size of the monopoly rent from the existing products endogenous. Another problem in antitrust policy is the use by courts of rule-based tests, such as finding "abuse of dominant position" or "monopolization" if (1) the firm has a high market share in a relevant market and (2) the firm has engaged in a ruled-out behavior such as tying. This can amount to a "tax on competitive success" (i.e. on the high market share) if the tying does not actually reduce competition. If either competition authorities or courts insist on a competitive effects analysis rather than using such a rule-oriented analysis, the "tax on competitive success" can be avoided. By a competitive effects analysis I mean instead only finding monopolization if (1) the firm has undertaken actions which could change a market from a less competitive to a more competitive role and (2) the actions are not competition on the merits but rather served to block competition.

This shift from "rules" to "effects" analysis is a good idea in general but it is particularly useful in the case of a fading dominant firm. A fading dominant firm will typically thwart competition only after innovative outsiders have begun a competitive attack. The fading dominant firm will seek to block new competition because it is losing, not because it had success in the past. In such circumstances, antitrust intervention is conditioned on competitive failure in the present, not competitive success in the past. The problem of a "tax on competitive success" is thus irrelevant. Another problem in some circumstances is a conflict between the policy goal of permitting competition and the policy goal of encouraging innovation. I have already shown that fading dominant firm cases involve little risk of attacking successful innovation. Even more, there is no conflict: The innovation which matters to consumers is industry innovation, not the innovation of

⁹ Some observers make an elementary economics error at this point by assuming that antitrust interventions which benefit *competition* and antitrust interventions which benefit *competitors* are nonoverlapping sets. If a competitor argues in favor of an antitrust intervention, these observers argue that this means the intervention must be protecting the competitor from competition. It is easy to show that this is an error in logic. Consider antitrust interventions which (for example) lower barriers to entry and to new competition from innovative entrants so as to (1) increase competition (2) to the benefit of consumers through (3) permitting innovative entrants to earn a return on their innovation. Of course, when an antitrust intervention actually is protecting a competitor from competition, it is a policy mistake.

¹⁰ A modern misuse of language views antitrust as a subset of regulation. Proper antitrust enforcement is pro-market, not pro-regulation.

any particular firm. Accused fading dominant firms will always say that the antitrust intervention is an attack on their freedom to innovate. When the exclusionary behavior is an effort to prevent consumer choice of innovations by outsiders, this argument falls far short of establishing a conflict between competition and innovation incentives. When the exclusionary behavior is an effort to expropriate the returns to outsider innovation, the coincidence of pro-innovation policy and pro-competition policy is all the stronger.

It is of course critical that antitrust authorities avoid protectionism. The task of competition policy is to protect competition, not competitors. If competitors are losing in competition on the merits to an incumbent dominant firm, then the market is working. If however, competition on the merits would work to the benefit of outsiders and the incumbent dominant firm is monopolizing, antitrust intervention is not protectionist.

In addition to the potential problem of protectionism toward the outsiders, there is the temptation toward protectionism of the fading dominant firm. One role of the “innovation” defenses raised in many cases is to legitimize protectionism toward the existing dominant firm. Forgetting about the distinction between innovation at the industry level and the firm level, some observers make the protectionist argument that it is never pro-competitive to interfere with the dominant firm’s “freedom to innovate.” This argument is related to another protectionist error, i.e., the argument that any market power associated with patents or copyrights must be pro-consumer market power because the patents or copyrights must provide an “incentive to innovate.” This ignores the basic economics of patent or copyright, a compromise between a bad (*ex post* market power) and a good (*ex ante* incentives.) A patent or copyright used as a tool to block innovation by competitors is not, in any case, connected to innovation only in a positive way.

2. Microsoft is a fading dominant firm

Microsoft was once a capably competitive firm, if not an innovative one. At the height of its capabilities, Microsoft excelled in three areas which gave it considerable competitive advantage: imitation of others’ innovations, continuous incremental improvement in software development, and commercialization of mass-market computing. Microsoft also had impressive competitive strategy capabilities. These strengths brought the firm success in the personal computer industry over its first two decades.

That success depended, as competitive success always does, on a match of capabilities to environment. The competitive landscape in that period was populated by (1) innovative startups with far weaker commercialization and strategy capabilities than Microsoft and (2) traditional computer industry firms, such as IBM, without strong mass market commercialization capabilities or an understanding of PC market strategy.¹¹ The technical and market basis of the industry saw (1) a limited role, compared to the present, for computer networks, while (2) the largest and most profitable markets for PCs in supporting office workers with applications such as spreadsheet and word processors and (3) many innovations in mass market computing were PC innovations.

Like IBM in the mainframe computer era, Microsoft in the standalone business PC era was the single technically-capable firm which best understood markets and commercialization. Over the first two decades of the industry, Microsoft entered a number of PC industry software markets opened up by innovative firms with limited commercialization or incremental improvement

¹¹ Bresnahan, Greenstein, and Henderson (2009) provide an analysis of IBM’s temporarily successful efforts to have appropriate capabilities in the PC business, and of Microsoft’s (later) temporarily successful efforts to have appropriate capabilities for the Internet, and show why in each case the success was necessarily only temporary.

capabilities. Microsoft's commercialization and incremental improvement capabilities brought them considerable competitive success. Since PC commercialization and incremental software improvement were difficult and important to customers, Microsoft's capabilities were valuable both to the development of the industry and to its bottom line.

The industry conditions which made Microsoft's capabilities so valuable have largely changed, and Microsoft has had considerable difficulty changing with them. Today, Microsoft is a fading dominant firm.

Mass market computing applications today are growing much more rapidly in networks (on the internet and inside firms) and/or for home users than they are on the at-work PC alone. Some newer rivals are more effective commercializers than the rivals of the past, devaluing Microsoft's traditional capabilities advantage in that area. Innovative firms and even not-for-profit entities (such as parts of the open source movement) have learned some lessons about imitating Microsoft, so the firm's traditional strategy of taking advantage of others' innovation is less profitable.

In contrast to its loss of competitive capabilities, Microsoft has excellent positional advantages within the PC industry. Entry and competition against its key PC industry monopolies, the Windows operating system and the Office suite of productivity products, Microsoft's improved positional advantages have arisen because the longstanding sources of competition in the PC industry have been blunted. Vertical disintegration of the key strategic markets is a very important source of competition in this industry.¹² Microsoft has grown over time to be the dominant firm in all the strategically important software categories on the PC.

This has two implications. First, unless some other firms innovate opening up new PC markets for it to imitate, Microsoft is left without opportunities for profit growth in PC software itself comparable to the ones it exploited in the past.¹³

Second, there is now no other firm which sells a strategically important software product on the PC.¹⁴ This raises entry barriers and limits threats to Microsoft's dominant positions based in PC software. Until innovation creates a new PC software market with widespread usage and significance to users, Microsoft's existing products will continue to have high entry barriers.¹⁵ Microsoft's role as a fading dominant firm is at the heart of both the US and the EU antitrust cases, to which I now turn.

2.1. Profitability going forward

A high level of profit for Microsoft in the future thus involves at a minimum blocking any competitive threats to its dominant PC software products (the operating system, the business productivity applications, and programmer tools.) Growing profits in the medium term and

¹² The most important competition in the industry has been creative destruction competition *for* the market. Competition *in* the market is a far less important force in strategically important PC industry markets. See Bresnahan (2006).

¹³ Microsoft began as a programming tools firm, expanded to the operating system, and then later to white collar productivity products such as word processor and spreadsheet. It is a logical possibility that Microsoft could develop innovative capabilities itself opening up new markets, but the firm's history suggests a very low probability of this event.

¹⁴ Intel sells a strategically important hardware product, the microprocessor. Intel, is, however, seriously disadvantaged strategically by the existence of an effective cloner, AMD. Microsoft faces no such limitations.

¹⁵ Many observers who hope for a more competitive situation let that hope overcome sound judgment and forecast that various outside developments, such as the "netbook" and the Google "Chrome" operating system, amount to important threats to Microsoft's position.

avoiding long term profit decline also involves a successful transition to a position of dominance in new mass market computing activities based in networks.

The first half of that strategic program has been going fabulously well for Microsoft. Surprising threats to its PC software monopolies arose as a result of the widespread use of the internet.

Those threats have passed, not thanks to superior innovation or competition on Microsoft's part, but thanks to successful monopolization.

The second half of the strategic program, finding a position in the growth categories of mass market computing associated with the internet, is going far less well for Microsoft. The rents associated with the new categories of mass market computing are, to a very considerable extent, going to innovative firms whose software runs on the server side, not the PC. These innovative firms include Amazon, EBay, Google, Yahoo, and the wealth of "social networking" firms (not all of which will be with us after the coming shakeout, but some of which will be earning substantial rents.) In contrast with these innovative outsiders, competition and innovation have not been effective strategies for Microsoft, the fading dominant firm.

Microsoft's growth away from the PC toward the server has been slow, and even that slow growth has not come primarily from innovation and competition, but from monopolization. Monopolization has been an effective profit in areas which are closely complementary to its existing dominant products, especially the Windows PC operating system monopoly. This program of monopolization has effectively removed threats from the browser, from Java (on the PC – Java on servers remains an important technology) from media clients and from workgroup operating systems. It has not yet given Microsoft a path into high growth areas.

The current state of affairs then, has two elements. (1) There are no realistic prospects for entry and competition against Microsoft's key PC monopolies – though there were realistic prospects as the widespread use of the internet was in its early growth phase. Strategically important mass market PC software and strategically important links between the PC and servers are well defended by Microsoft. (2) Microsoft does not yet have an effective online strategy in mass markets remotely as important or innovative as Amazon's, Google's, EBay's, or Yahoo's.

3. Economics of the US Case against Microsoft

Microsoft, the longstanding monopolist in the personal computer operating systems market, was surprised by the widespread use of the Internet in the mid-1990s.¹⁶ Worse from Microsoft's perspective, this surprise posed a potential threat to its position and its market power. Microsoft feared the vertical disintegration of key strategic software layers – which had frequently led to creative destruction competition in the past – would bring new opportunities for competition against its key products.

Specifically, external control of widely used Internet-centric PC products and technologies such as the browser and Java would lower barriers to entry into PC operating systems. To prevent entry barriers falling, Microsoft acted to prevent widespread distribution under the control of outside firms of those innovative technologies. Microsoft was caught off guard by the widespread use of the internet facilitated by the web browser and noted internally that the technical solutions that came from outsiders were much more valuable to customers and much more innovative than its own efforts.¹⁷

¹⁶ Discussion of the Microsoft case – from both sides – can be found in Evans et al. (2000)

¹⁷ Microsoft's own efforts to advance mass markets in online content and commerce at this time were unimpressive. The firm sought to imitate AOL and to have a proprietary architecture for online software. The novelty and openness of the WWW and the browser were what struck Microsoft officials as superior.

Once it realized the importance of the outside technological and market developments, Microsoft saw a threat of creative destruction competition. The firm had a number of reactions, including an (entirely legal) attempt to catch up technologically to browser market leader Netscape. Yet Microsoft found itself unable to win by advancing its own version of the browser or even giving them away for free, despite its considerable “strong second” skills in incremental technical progress and mass market technology marketing.

Having failed at competition on the merits, Microsoft turned to a wide-ranging arsenal of anticompetitive tactics, exploiting its existing monopoly position to block the widespread distribution to users of innovative products from outsiders. Its ultimate success in establishing dominance for its own browser and client-side Java were the fruits of those anticompetitive acts. That dominance, in turn, means that vertical disintegration in strategic PC software products is less than if the market had been permitted to choose. The entry barriers into the PC OS business have remained high as a result of this vertical integration.

The monopoly profit benefit to Microsoft from its anticompetitive program in the US case arises through the increased probability that the Windows monopoly will persist into the future. In the US case, the most important mechanisms for blocking competition were contractual. Distribution channel firms were contractually required to distribute Microsoft’s browser (a tie-in) and to limit their distribution of competing browsers (a tie-out.) The one important technological-tying element was Microsoft’s efforts to make it impossible (earlier, very difficult) for consumers to remove the Microsoft browser if they wanted another.

The US case was brought because Microsoft’s failure competition on the merits was followed by a naked effort to reduce competition by contract. Far from being a “tax on competitive success,” the US case only arose because Microsoft’s history of competitive success had ended and – fading – the firm had entered a period in which blocking competition on the merits was its core strategy.

3.1. Two Peculiar Defenses

Microsoft argued in its own defense that the US antitrust case was about its “freedom to innovate.” This was merely an attempt to mislead the court and the broader public. There was nothing illegal about Microsoft’s making its own improved browser in imitation of Netscape; the antitrust violation lay in compelling the distribution channel and its customers to take that version and reducing their options to choose alternatives freely. Microsoft’s strategic problem was that its innovation capabilities were insufficient to turn the market by competition on the merits; only because it was losing the browser war did it use the tie to Windows to compel distributors and ultimately customers to make a different choice than would have occurred under competition.

Microsoft’s defenders have also brought forward the bizarre argument that the government should have paid more attention to Schumpeterian creative destruction competition. Creative destruction competition is a centerpiece of the government’s case; Microsoft, a fading dominant firm, was accused and convicted of blocking creative destruction competition.

3.2. Remedy Fizzle

The weakest parts of the US case are the delay inherent in the use of antitrust law to deal with fading dominant firms and the remedy.¹⁸

¹⁸ Scherer (2008) has an analysis of delay in connection with a wide range of recent monopolization cases.

The PC industry offers opportunities for creative destruction competition within fairly narrow time intervals. The surprising increase in use of the internet, converting it into a mass market commercial technology, was one of those opportunities. Microsoft was able to violate the antitrust laws from the time Netscape “awakened the sleeping giant” (in the words of Bill Gates) in mid 1995 through the filing of the US case in 1998 and the trial in 1999 and 2000, finally coming under a remedy consent decree only later. The creative destruction entry and competition opportunity was largely over, because the “browser war” was largely already won (through anticompetitive means) before the US case was filed. While the court case moved quickly, the browser war was long over by the end of the trial. The vertical disintegration of the industry which would have occurred by open market competition in 1995-1998 could not be achieved by blocking use of the same anticompetitive acts in 2002-2007.

It is hard to imagine antitrust authorities and courts moving much more quickly than they did in the US case. The essential passivity of antitrust enforcement in monopolization cases, waiting for a violation to occur, strongly limits their effectiveness as a policy tool.

The US remedy consent decree is, in addition, ineffectual. Should another opportunity for creative destruction competition arise because another round of outside inventors invents highly valuable new technologies, the consent decree will have no impact on Microsoft’s ability to rid itself of the threat by monopolization. *That* is a policy problem that could have been avoided!

4. Economics of the EU Microsoft case

4.1. Situation in workgroup servers

In an era of networked computing, there can be close complementarities between the PC and certain server technologies. One example of this is to give specific end users access to specific resources on a network, such as files or printers. This kind of setup is common in corporations where a computer person manages access to server resources. It is not, typically, an important area for home users.

Networking technologies to link file and print servers (and related close complements) to PCs first became commercially important in the late 1980s. This area was neglected by Microsoft, leading to the early dominance of the Netware products and technologies. Microsoft had been attempting to catch up to Netware for some time. Microsoft in recent times has sought to have customers buy Windows as the operating system for their PC (an easy task given the monopoly) and to buy server versions of Windows as the operating system on the file and print (etc.) server. Microsoft proprietary technologies would then link the PC and the files, printers, etc. on the server. The relevant Microsoft technologies have been marketed under the brand name “active directory.”

An essential part of this Microsoft strategic plan was competitive success in the low price end of the server operating system market(s). However, innovation by outsiders has made the competitive environment there more difficult for Microsoft. Other server networking products and server operating systems saw dramatic technical progress over the last ten years or so. A notable change in this environment has been the success of open-source Linux, a very popular operating system for smaller servers. Linux, a widely used product at a very low (zero!) price, was positioned badly from the perspective of Microsoft’s goal of expanding by a low price high volume strategy in server operating systems.

Problems succeeding through competition on the merits in server operating systems gave Microsoft a broader strategic problem. Microsoft has sought to vertically integrate into

networking technologies for file and print (etc.) servers either to prevent the risk of future creative destruction competition or to gain the incremental profits associated with the complementary technologies. Microsoft can lower the risk of future creative destruction competition by blocking the emergence of an strategically important open connection to the PC from the server side and replacing it with a proprietary Microsoft one.

These are the background market circumstances to Microsoft's decision to very tightly tie the networking technologies running on its file, print, etc. servers to its monopoly PC operating system. That tight tie is at the heart of the EU's antitrust case against Microsoft.

The EU also objects to Microsoft's marketing of its media player. I will focus on the server operating system part of the case for space reasons and because the media player case, unlike the workgroup server operating system case, does not lead to implementable remedy ideas.

4.2. Competitive Effects and International Variation in Antitrust Standards

Many have argued that the EU case against Microsoft demonstrates that EU legal standards for monopolization are lower than US standards; that the case is a protectionist assault on incentives to innovate; and that examination of the two Microsoft cases reveals a deep divide between US and EU antitrust principles and policy analytics. While it is entirely possible that there are important transatlantic differences in antitrust policy and practice, very little can be learned about the differences from examining the two Microsoft cases. The EU case, like the US case, does not appear to be at all near the margin for monopolization liability under either body of law.

The Commission's case with regard to tying Microsoft's server operating systems to the monopoly PC OS is a simple fading dominant firm monopolization cases. As in the US case, the antitrust violations arose because Microsoft was losing in competition on the merits to innovations from other firms. As in the US case, Microsoft's innovation defense does not survive precise statement and examination.

4.3. The Server OS Case

To illustrate these points, I will talk more in detail about the server OS (interoperability) part of the case. The economics of the Commission's interoperability case is straightforward. The harm to competition arises in the market for operating systems for server computers used for file and print sharing in support of individual users on PCs. These same server computers may perform other functions, but the boundary of the market within which the Commission identifies a harm to competition is defined by those close links to the PC.

Microsoft is the dominant supplier of operating systems for these servers, but there are other suppliers of operating systems, including open source operating systems, used on workgroup servers. Together, non-Microsoft operating systems supply a substantial plurality of the market while Microsoft server OS supply the majority of the workgroup server market.

The Commission's case posits that this workgroup server operating system market could be either more or less competitive. The possibility of different competitive regimes is essential to any monopolization claim under a rule of reason analysis. Without it, there is no possibility of competitive effects from an attempt to reduce competition.

More specifically, absent Microsoft's actions to reduce competition, the work group server operating system market would be more competitive under the Commission's theory. Under the Commission's case, the lost competition in workgroup server OS comes in two forms. First, there would be more ordinary price/quantity competition among different sellers of workgroup server OS today. Second, there would be more dynamic innovative competition to offer new

server OS features, capabilities, and other improvements. The outside inventors, now tied out of the workgroup server OS market, would provide this innovation competition.

The Commission's case also posits that Microsoft's policy of selectively releasing interoperability information reduces competition. The workgroup server OS market is less competitive because the policy impacts the ability of customers who use the monopoly PC OS also to choose server operating systems on the merits. Customers cannot freely choose non-Microsoft server operating systems based on their prices or features, and could not freely choose an innovative product from a competitor if it were superior. The result is to entirely block customer choice and competition at many customer sites while making competition substantially less effective at many other customer sites. There are some PC customers largely unaffected by this restriction under the Commission's theory. Nonetheless, the overall impact is a less competitive workgroup server operating system market.

The possibility of a different competitive regime and a causal impact of a business practice in changing the competitive regime for the worse are the two key elements of the economics of a monopolization claim under a rule of reason analysis.

As in the US case, the EU case does not represent a "tax on competitive success." Microsoft has many times served a socially valuable function as an entrant into markets pioneered by other firms. The firm's incremental software improvement capabilities and marketing capabilities and strategies can be important if the pioneering firms lack comparable capabilities and strategies. Entry by any highly capable firm, including Microsoft, can lead to price decreases as well. Microsoft's need to tightly tie its workgroup server OS to the monopoly PC OS did not arise, however, because the firm was enjoying competitive success in servers. Rather, especially as the open-source Linux operating system became important in many smaller server uses, including workgroup servers, Microsoft's strategy of capable incremental improvement plus a low price ran into competitive difficulties. Customers, given the opportunity to avoid Microsoft's "architecture" for workgroup server OS, did so. Customers were particularly troubled that adopting Microsoft's "architecture" could be difficult to reverse, and thus would lead to forgoing many opportunities for server OS innovation from either the open source movement or from other commercial software vendors. The tie followed from competitive failure, not competitive success; the antitrust case was not a "tax on competitive success" but a reaction to a strategic replacement of competitive success with anticompetitive action.

One difference between the US and the EU cases is the market in which the competitive effects occur. In the US case, the harm to competition was maintaining high entry barriers in the monopoly PC OS market. In the EU case, the harm to competition comes in the workgroup server market. Because of this market difference and because of timing, the US case is about the maintenance of an existing monopoly over time and the EU case is about creating market power in a market for a complement to an existing monopoly.¹⁹ This difference means that in the EU case it is important to check whether a "one monopoly rent" argument might be correct. The Commission was careful to provide sufficient information to show that no "one monopoly rent" argument holds in this instance. This is not very difficult for them to demonstrate. When a fading dominant firm seeks to act as a "strong second" to expropriate the returns to outside innovators, the "one monopoly rent" argument will typically fail.

4.4. Mechanism to Restrict Competition

¹⁹The EU case deals with events after the immediate opportunity for creative destruction competition brought by the mass use of the internet discussed above.

Can withholding interoperability information harm competition? Should we understand providing interoperability information as “cooperating with competitors?”

Withholding interoperability information is a restriction on customer choice that relies on customers’ need for communications between Microsoft’s monopoly PC operating systems and workgroup server operating systems. Absent information necessary to that communication – called “interoperability” information in this industry -- Microsoft’s customers cannot freely connect workgroup servers from different sources to their PCs. Only if the workgroup servers can understand information sent by a user’s PC can they be fully incorporated into workgroup networks.

Interoperability information, as the Commission’s case makes clear, is information used for communication between two components that might work together. Microsoft, a firm which provides enormous amounts of interoperability information to customers and to other firms in the hardware, software, and networking businesses, has selectively refused to provide key interoperability protocols related to the way the PC communicates about user identity and the privileges available to particular users. Given the considerable amount of interoperability information routinely published, the argument that publication of this particular interoperability information would lead to cloning rings hollow.²⁰ The restriction on customer choice in the workgroup server market is achieved by withholding interoperability information selectively, to raise the costs of competitive choices inconvenient to Microsoft.

Thus the restriction in competition under the Commission’s case offers a substantial impediment to customers who seek to choose anything other than Microsoft’s dominant workgroup operating systems. The key to the competitive logic here is that the mechanism by which competition is reduced in one market (workgroup server operating systems) is through use of compulsory power found in a related monopoly product (PC, desktop or “client” operating systems.) This is much more like the logic of a tie-in sale than it is like “not cooperating with competitors.”²¹

4.5. The Peculiar “Innovation” and “Cloning” Defenses

Another difference between the US case and the EU case was a heightened role for technological tying. The US case was largely a contracts case; the EU case alleged that withholding interoperability information lessened competition in a complementary product.

Microsoft’s defense claimed that the Commission was protectionist, seeking to give valuable Microsoft server operating system innovations to other server operating system vendors. Giving the innovations competitors would permit them to clone the Windows server operating system (or key components of it) by competitors under this defense theory. The theory has been properly rejected by the European courts.

The “cloning” argument confuses protocols or communication among software running on different computers with the software itself. The CFI²² has recognized this basic distinction in rejecting the “cloning” defense.

²⁰ Microsoft has not made any argument in public that this particular information would lead to cloning and will not publish its version of the cloning argument that it made to the court. The court’s has provided a lengthy summary of Microsoft’s cloning argument. As summarized by the CFI, Microsoft offers no specific argument that this particular interoperability information would permit cloning.

²¹The “cooperating with competitors” argument blurs a boundary and thereby makes an error. Microsoft and others are competitors in workgroup server OS – and Microsoft talks as if it must cooperate by sharing server OS technology. But that is incorrect, the technology at issue is interoperability information between the workgroup server OS and the monopoly PC OS.

²²All references to the Court of First Instance’s views refer to its September, 2007 *Judgment*. I refer to the English-language version.

Some of the cloning arguments made by Microsoft in public and apparently in court are embarrassing. Here is a summary of one Microsoft point as made by the CFI²³:

Microsoft observes that, at recital 669 to the contested decision, the Commission states that ‘open industry standards fall short of enabling competitors to achieve the same degree of interoperability with the Windows domain architecture as Windows work group server operating systems do’. Microsoft also observes that, at recital 679 to the contested decision, the Commission states that ‘Novell’s “clientless” work group server operating systems cannot use the full capabilities of the Windows client PCs and work group servers in the same way that [Windows] work group server operating systems can’. Microsoft concludes from those statements that the Commission initially envisaged interoperability as being the capability for its competitors to make their products work in exactly the same way as Windows server operating systems.

The statements attributed to Microsoft by the Court are simply a misquotation of the Commission’s position. The Commission points out two examples in which the currently publicly available information does not permit full interoperability. Microsoft claims that this means the Commission wants full cloning of the Windows workgroup OS, i.e. letting competitors’ products “work in exactly the same way as Windows server operating systems.” Microsoft is blurring the meaningful technical distinction between an interface or protocol (which is a mechanism by which pieces of software communicate with one another) and software functionality (what they do other than communicating with one another and how they do it.)²⁴ The Court rejected Microsoft’s incorrect argument, finding that the Commission was seeking interoperability rather than cloning.

By making the “cloning” point Microsoft’s attorneys were advanced a colorable argument about the Commission’s interoperability case. If the Commission were in fact permitting competitors to clone the Windows server operating systems, that would be protecting competitors from the impact of Microsoft’s innovation by giving them the innovation. Choosing to make this argument is understandable: any antitrust attorney would, instead of having to defend the case the Commission actually brought, rather be defending a lawsuit in which the Commission was protecting competitors in this way. While the court rejected that false “colorable argument” it has gained new life as a false sound bite in much of the policy debate, and, sadly, in the policy scholarship.

Microsoft’s attorneys were also seeking to blur another important distinction. They used the “cloning” argument to make it appear that the Commission is compelling Microsoft to “give the technology” of its workgroup server operating systems to its workgroup server OS competitors. This, too, is false. The Commission’s interoperability case was about the interoperability between competitors’ server OS and Microsoft’s monopoly PC operating system. Here the

²³CFI at paragraph 126. I quote the CFI’s quotation of Microsoft’s argument rather than Microsoft’s argument itself because Microsoft’s brief was not published. Ian Forrester, Microsoft’s counsel in the EU matter, told me he was not in a position to give me a copy of Microsoft’s brief, writing “Court pleadings are not public documents, which explains the difference with US proceedings where they are public” in an email of 10/22/2007.

²⁴Another embarrassing Microsoft argument recognizes the technical distinction between an interface and a computer program, but asserts that the publication of interfaces will permit full cloning of the underlying software. The CFI points out that Microsoft has not proved this (extremely false) proposition. See CFI at paragraph 147.

attorneys had a better chance at confusing the court because, in complex networks, some communication among different server computers is needed for full interoperability with the PC. Again, it is understandable why this argument came forward. Any antitrust attorney would prefer to defend a case in which proprietary technology was being given to horizontal competitors as opposed to the actual EU case in which a monopoly/complement tie was being broken. And while the court was not confused, the point persists in sound bites and, sadly, in policy scholarship.

The “cloning” defense is an odd one in a fading dominant firm industry with innovation from outsiders. Server operating systems innovators are very diverse. They use a wide variety of technical approaches, a wide variety of organizational forms (from integrated for-profit companies to open source) and have a wide variety of views about the appropriate future uses, technology, and functionality of server operating systems. This product and strategy differentiation is innovation away from the Windows architecture in a number of directions, not cloning of it. Like people inside Microsoft, these outsiders know that the recent success of Windows in workgroup servers is because of the tie to the monopoly PC OS, not any superior technology. They had no profit motivation to clone Windows. They, and consumers, did have powerful motives for interoperability with the monopoly PC OS.

One thing that does unite the diverse server operating system innovators is their disdain for the technical level of Microsoft’s operating systems. Silicon Valley server operating system engineers would be horrified and insulted by the suggestion that they were planning to clone Windows. The Windows “cloning” theory is about as plausible as a supposed French plan to clone American culture and cuisine.

While the “cloning” theory has no economic or technical basis, it does tell us something very important about the psychology of people working at a fading dominant firm. They so want to believe that outsiders are no more innovative than they. If we look back at the industry history, has there ever been an important seller of Windows compatible operating systems who entered by cloning? Yes, one. In 1980 and 1981 *Microsoft* entered what is now the Windows OS market selling IBM PC-DOS, a clone of the then market-leading PC operating system, CP/M.²⁵

4.6. The Problem of “Intellectual Property”

More generally, Microsoft argued that it should have been entitled to special protection from the antitrust laws because it had various “intellectual property,” whether patents or copyrights that were relevant to the interoperability information. The EU made a detailed and careful effort to argue that Microsoft was blocking innovation rather than innovating. (This was not all that difficult to sustain given the evidence in the case, since Microsoft is after all a fading dominant firm.) Why were they not swayed by the patents, copyrights, and trade secrets arguments? Indeed, many legal commentators emphasize the CFI’s findings about patents, copyright, etc. They characterize this case as one which tells us something about competition policy in the EU will treat how other “innovative” defendants – those with patents or copyrights -- in the future. Here it is very important to keep straight the distinction between two very different questions. One concerns the *legal process* problem of arriving at sensible rules under which both

²⁵As IBM was designing its PC, Microsoft bought the OS from a programmer who had cloned CP/M. Microsoft then licensed it to IBM as PC-DOS. The resulting backward compatibility of the original IBM PC with CP/M computers helped its entry and early market success. A series of backward compatible improvements over time have brought PC-DOS to MS-DOS to windows. The sentence in text (uncontroversially) sees Microsoft’s entry into the PC OS market as this successful cloning, rather than Microsoft’s commercially unsuccessful development of a PC OS based on UNIX.

competition *laws* and the *laws* of patent, copyright, and trade secrets are at work in the same legal system. Another concerns the *substantive* problem of having a competition policy which is pro-innovative. These two questions are very different for two reasons. First, as Jon Baker (2007) has recently pointed out, competition typically is a source of innovation, not a block to it. That point is, of course, doubly important in the case of a fading dominant firm, where either expropriating the return to outsiders' innovations or preventing innovative competition are often the goals of anticompetitive acts. And that same point is very important in both the US and the EU cases against Microsoft, where the main anticompetitive problem was of blocking innovations from outside firms from getting a market test on the merits.

A second important point is that there is a large gap between innovation and "intellectual property" in modern economies. Many antitrust scholars seem largely to have missed this point, treating the *legal* boundary between competition *law* and patent *law* as the same as the substantive boundary between pro-competition policy and pro-innovation policy. Apparently they do not know that the gap between innovation and "intellectual property" is one of the most solidly established facts in empirical economics. Consider manufacturing, where patents are the most salient form of "intellectual property." Substantive innovations in manufacturing are typically not protected by patents.²⁶ Most patents in manufacturing industries are not related to any important substantive innovation.²⁷

Nonetheless, some policy observers continue to argue that US antitrust policy, by deferring more to defendants who hold patents or copyrights, favors dynamic competition more than EU competition policy. The Microsoft case, in which the defendant's argument was to yell, in the EU "I have patents" and in the US "I have a copyright" is often cited as an example of this tension between static and dynamic incentives. As a criticism of specific enforcement actions in which the challenged harm to competition was blocking market tests of innovative new products, this is simply an error that renders the analysis irrelevant. As a broad policy argument about patents and copyrights generally, this is a dangerous error. Protectionism toward patent and copyright holders is not the same thing as, indeed, is the opposite of, favoring innovation competition.

4.7. Delay; Remedies

The weakest parts of the European case are the long delay and the remedy.

Delay: Microsoft has been able to impose the restrictions on competition for more than half a decade while the case worked its way through the Commission and the Court. That is a very long time in mass market computing.

The media player remedy (or any variant) is very unlikely to have any effect. It is prohibitively difficult for an outside agency, however technically sophisticated, to manage the boundary between two large complex pieces of software (OS, media player) running on the same computer.

The interoperability remedy will have the pro-competitive impact of permitting somewhat more competition on the merits in workgroup servers. That is contingent on the assumption that the

²⁶There is a large literature on this. The locus classicus is Levin et al. (1987).

²⁷Here one must acknowledge the remarkable work of many different scholars, particularly in connection with the NBER's extensive patent database project. These scholars have worked to learn not only how unimportant most patents are, but to identify and analyze the relatively few important patents. A capstone on the early stages of this work can be found in Jaffe and Trajtenberg (2002).

Commission succeeds in getting compliance – timely, good faith compliance – with the interoperability remedy, which may or may not be a reasonable hope at this juncture. Microsoft has a long track record of bad faith compliance. It is also contingent on the assumption that Microsoft will not find another way to limit competition, an optimistic assumption given the firm’s remarkable tactical inventiveness in blocking competition.

The interoperability information disclosure remedy is useful and pro-competitive, but it will not trigger a round of creative destruction competition against the Windows PC OS monopoly. Even assuming they can be enforced, the Commission’s remedies simply do not change incentives enough. Microsoft still has a far higher return to inventiveness in blocking competition than to inventiveness in bringing new technologies to market. Shining a weak light on a fading dominant firm is insufficient; the harsh glare of the real threat of creative destruction competition, such as we would have gotten but for Microsoft’s violations of the antitrust laws in the late 1990s, are the effective force. Like the US consumer, the EU consumer has far less opportunity for market choice among innovative alternatives than if Microsoft had not monopolized.

5. Conclusion

Many have argued that the Commission’s Microsoft case offers us an opportunity to think about any of several policy issues: international differences in antitrust policy, conflicts between innovation and competition, the distinction between protecting competitors and protecting competition, and legal technicalities at the intersection between patent law and antitrust law (as distinct from the policy question of innovation vs. competition.²⁸) These are all important debates, but the European Commission’s case against Microsoft will not help us think about them.

The European Microsoft case is not, in its antitrust logic, particularly “European.” As I showed above, the interoperability case has all the elements of an economic rule of reason analysis. A dominant firm (Microsoft in workgroup servers) raises the costs of entry and competition by raising the costs for its customers to choose a competitive workgroup server product. The mechanism of the raised costs for consumers is a tie to the dominant firm’s monopoly product in a related market. The tie is implemented technologically, and the pro-competitive justification that breaking the technological tie will reduce innovation incentives has been shown to be false. That is monopolization on any continent.

Since the *Microsoft* case fell very far from the margin, the European Court of First Instance decision was not compelled to spell out clear thinking on where the margin might lie. Indeed, the CFI repeatedly notes that the Commission has proved much more than it needs to under European law. To the extent that European law is too pro-intervention, this situation speaks well of the Commission’s use of prosecutorial discretion. But there is a large missed opportunity for the Court here. One can only hope that, faced in future with a case in which pro-competitive or innovate conduct that appears to technically violate European antitrust law, the CFI will clarify the law. But that case is not *Microsoft*.

In this note, I have emphasized the dynamic competitive situation of mass market computing and the role of Microsoft as a fading dominant firm. That is a somewhat different focus than the usual, and deliberately so. For excellent reasons, we ask the courts in any particular antitrust case to adopt a very narrow and pro-defendant test: was the challenged conduct an act of competing

²⁸There is a large gap between the policy question of conflicts between innovation and competition and the legal question of the boundaries between patent law and antitrust law. To take the simplest example, most US patents are not associated with any significant innovation.

(in the present or innovatively) or was it an act to prevent competition (in the present or innovation competition) breaking out? I introduce the Schumpeterian frame of the fading dominant firm as a reminder that, in this particular context, acts to prevent innovation competition are particularly harmful to society.

In policy discussions, we spend a great deal of time thinking about the margin between good and bad antitrust interventions. That discussion is sometimes useful, but not particularly relevant to the Microsoft cases, which are far from the margin. Legal scholarship and legal policy debate is a context in which is essential to pay attention to both sides of an argument. This element of legal discussion can be problematic when tightly linked to a case far from the margin, as it gives too much weight to the nonsense brought forward by the side with the weaker arguments.

For example, the US and EU Microsoft cases don't involve any conflict between innovation and competition. But Microsoft's defenders have raised that link, and many people, including some in government in the United States, have echoed it.²⁹ That the argument has no merit in the particular case does not appear to stop hand-wringing about whether an "implication" of the Microsoft matters is that some future antitrust cases will harm innovation.

The hand-wringing goes something like this: Surely Google must be the "next Microsoft." Surely the Commission, having attacked Microsoft's incentive to innovate, will next attack Google's incentive to innovate. Surely, having protected other firms from competition by Microsoft, the Commission will next protect other firms from competition by Google.

This worry needs to be met with two calm responses. The Commission's *Microsoft* case was pro-innovation, and the "attack on the incentive to innovate" defense is nonsense. Genuinely innovative and competitive firms like Google have little to fear from a policy which targets fading dominant firms like Microsoft. Microsoft's antitrust troubles arose, not because of its competitive or innovative successes, but because its failures to effectively compete or innovate left it no option but to monopolize.

Of course, we should encourage the Commission, as we would encourage any competition authority, to bring only pro-competitive cases, and, in technology intensive industries, only pro-innovation cases. My point is that their *Microsoft* case is encouraging on this dimension.

Defendants in monopolization cases will always argue that they have been wrongly accused, that all they were doing is "competing too hard" for the comfort of their competitors. In technology intensive industries, defendants will always argue that all they were doing was "innovating too fast" for the comfort of their competitors. When factually correct, these arguments establish that an antitrust intervention is misguided.

But the defense arguments are not always factually correct. In the case of Microsoft, it is critical to note that "competing too hard" that is not illegal under the antitrust laws -- and Microsoft didn't do it. "Innovating too fast" is not illegal -- and Microsoft couldn't do it.

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²⁹The US argument appears to arise from the bureaucratic necessity of asserting that the consent decree in the US *Microsoft* case is sufficient to protect competition. As I have shown in Bresnahan (2001), that very weak decree does little to protect competition. Making bad policy choices can create unpleasant bureaucratic necessities later on.

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