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MICROSOFT, THE LAW, AND ECONOMICS

In "Man of La Mancha," Sancho Panza muses on the nature of unequal contests, observing that, "Whether the stone hits the pitcher or the pitcher hits the stone, it's going to be *baaad* for the pitcher." When the law and economics collide, it is usually economics that gets shattered. That's literally true in the Microsoft case, as the Justice Department and Judge Jackson try to break up the company.

The charge

The initial complaint lodged against Microsoft was that it injured Netscape by offering the Microsoft Explorer web browser for free as part of the Microsoft Windows operating system. This forced Netscape to offer its browser for free to compete. Until then, Netscape had dominated the browser market and had been able to charge some computer users for its browser.

The economics

It is a basic law of microeconomics (introductory undergraduate price theory, economics 102) that, in a competitive market, a good sells for the

cost of producing one additional unit (its "marginal cost"). Why? Because if farmers in Kansas can produce additional bushels of wheat for \$2 each, then farmers in Nebraska can't charge \$3 a bushel, or Kansas will steal the business. A monopolist can charge more than the marginal cost, but only because some factor is blocking competitors from entering the market.

Marginal cost pricing = competition.

Marginal cost pricing is a sign of a competitive market. This is true whether there are many suppliers of a product, or a single provider constrained in his pricing behavior by the threat that competitors will enter the market at any hint of a price hike. The consumer is happy either way.

How much is that browser in the window? The marginal cost of making one more copy of a browser available to one more computer owner is virtually zero. A browser can be part of the software installed on the computer at the factory, or available on a CD-ROM shipped with the machine, or it can be downloaded by the computer user from the Internet. Either way, the marginal cost is less than a penny's worth of electricity. (If you buy a browser in a software store, you pay for the box, shipping, and the store's and manufacturer's overhead. What's inside the box costs about ten cents.)

Since the marginal cost of producing another copy of a browser is zero, and there are no barriers to entry in the browser supply business, it was inevitable that some competitor or other would emerge to drive the price to zero sooner or later. That it was Microsoft sooner rather than someone else later was a function of the efficiency of the software installation process on new machines, and, being sooner, a boon to consumers.

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Covering development costs of high tech products. Of course, Netscape incurred development costs in creating its browser. These fixed costs, which are in addition to the marginal costs, need to be recovered somehow. Netscape was miffed that it could not keep its preeminent market position and charge for the browser for a longer period of time to get a bigger return on its fixed costs.

In most industries, marginal costs rise with output, and are high enough to exceed average costs, including the fixed costs of developing the product and overhead. Jurists sometimes assert that a business that charges less than average cost is engaging in "predatory pricing" to drive a rival out of business. That's what Microsoft was accused of doing.

This "test" of anti-competitive behavior is shaky at best, and depends very much on other circumstances. In the high tech world, in particular, it is nonsense. When the marginal cost of a product is very low or zero, it is only natural that the competitive market price will not cover fixed or average costs. Firms normally have to find some other way of recovering such costs. Microsoft did not engage in predatory pricing by charging a zero price for the browser, even though the price did not cover fixed costs and average costs, because the marginal cost is zero.

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Many technology products share the characteristic that they are expensive to develop, but the subsequent cost of producing an additional unit is very low. If competition drives the price down to the marginal cost, how are the development costs to be recovered?

Treasury Secretary Lawrence H. Summers addressed this issue in remarks to a technology conference on May 10, 2000. He said, "An information-based world is one in which more of the goods that are produced will have the character of pharmaceuticals or

books or records, in that they involve very large fixed costs and much smaller marginal costs... [I]t means that the only incentive to produce anything is the possession of temporary monopoly power — because without that power the price will be bid down to marginal cost and the high initial fixed costs cannot be recouped." The search for these transitory advantages, he said, will be an essential spur of economic growth.

"Monopoly" in this new economy context is not the same as the cartels of the old, old economy of big oil, big steel, and big railroads of the 1890s. In fact, any fleeting "monopoly" power that a firm may get in this rapidly changing high tech world is

probably the result of a temporary technical or marketing advantage and is bound to be as brief as Netscape's dominance of the browser market. It is of no legitimate concern of the Justice Department or the courts. Furthermore, there are other ways around the problem of recouping fixed costs.

Get a patent. Some products are eligible for patent protection. Prescription drugs are very

expensive to create, averaging several hundred million dollars for discovery, research and testing, developing production technology, and building manufacturing facilities. Thereafter, the marginal cost of making one more pill may be only a few cents. Drug companies get patents (in effect, temporary government-authorized monopolies) on their products to be able to charge a price above marginal cost for several years to recover their development costs and earn enough profit to encourage them to continue their work. Once drugs go "off-patent", generic producers copy them and the price tumbles.

Hurry up. Particular software can be copyrighted, but basic concepts such as that of a browser or a word processing system cannot be, and there are many ways to write programs that provide the same services without violating copyrights. Previous browsers, such as Mosaic, had been free all along. In such a situation, the way to make money on a new bit of software is to get to the market before the competition with a fancier product, and charge as much as the market will bear until competitors figure out how to provide the same service and drive the price down. This is what Netscape did initially, charging unsophisticated retail consumers for its browser-in-a-box until competition drove the price to zero. Netscape downloads from the Net were effectively free; users were requested to send in payment after a trial period, but many never did.

Advertise. For a broadcast TV or radio station, the marginal cost of having an additional listener tune in is zero. Station owners are happy for additional viewers or listeners to intercept their broadcast signals at no charge, because their ratings

rise and their advertising rates go up. Broadcast TV and radio stations are worth a lot of money even though they give away their products for free.

How did Netscape make money after it was forced to charge the fair and proper marginal cost for its browser? It had substantial income from providing other Net-related services to businesses. But the browser was worth money too, thanks indirectly to advertising.

The Microsoft case and the recommended break-up of the company are an over-reaction to a fast-moving competitive situation of a type that Federal officials are not used to seeing.

When we click on a browser, we go quickly to a portal that connects us with Internet content. Portals make money by displaying ads and by providing prominent links to web businesses that pay to be featured, either via icons or by being the sites first listed

when users search for "wine" or "travel" or "stockbroker" services.

The Netscape browser steers its users to Netscape's portal, Netcenter, and, since AOL bought Netscape, to AOL's portal too. (Users can substitute other portals as their preferred home pages, but millions don't bother.) Netscape earns money from related advertising and linkage fees.

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Did Microsoft's inclusion of a browser with Windows make it difficult for users to obtain Netscape, and undercut its "ratings" with advertisers?

No, Netscape is readily available from the Internet, and is often provided as free software on CD-ROMS shipped with new computers. As long as Netscape is easily obtainable by users, and is in wide use, it provides a vehicle for the company to earn advertising revenue. Did Netscape still have value after the price of the browser was driven to zero? AOL thought so when it paid billions to buy it.

Bundle up, it's a cold cruel world outside. In short, Netscape gave away the browser, which it could no longer charge for anyway, and thereby attracted customers for its bundled portal, which earns money. "Bundled?" Isn't Microsoft being criticized for "bundling" features such as the Internet Explorer browser with its operating system? Yes, and Netscape bundles products too. AOL has always bundled some sort of browser with its Internet service, and that browser might be Netscape 6 next year. Bundling services you can charge for with a service you can't charge for but that enhances the value of the other services is one of the few ways to make money on the zero-priced service. There's nothing wrong with it.

Law and Economics

The Microsoft case and the recommended break-up of the company are an over-reaction to a fast-moving competitive situation of a type that Federal officials are not used to seeing. All that is needed for a competitive consumer-friendly market is for Microsoft to reveal enough information about

its operating system to enable competing software makers to design applications to work with it.

When courts rule on the basis of legal theories that are divorced from the laws of economics, as in the Microsoft case, the results are often harmful to producers, consumers, and investors. Economics eventually gets even by causing market chaos that reveals the legal folly. (We may be seeing some of that in the collapse of the NASDAQ tech stocks as the courts and the Justice Department create confusion over property rights. Or maybe it's Alan Greenspan's fault.) The law, however, is often not sufficiently embarrassed to correct its mistakes, and the public bears the consequences.

Some jurists went to law schools that provide economics training and emphasize the value of judgments that make economic as well as legal sense. The Microsoft case is clear evidence of the need for more such programs.

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