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A Defective Product: Consumer Groups' Study of Microsoft In Need of Recall

By Stan Liebowitz¹

Consumer groups are supposed to be on the side of consumers. But three such groups – the Consumer Federation of America, the Media Access Project, and U.S. Public Interest Research Group – have just produced a lemon of a report.² Entitled "The Consumer Cost of the Microsoft Monopoly," their study is based on fundamental misconceptions and highly flawed analysis.

Their conclusion in a nutshell: Microsoft software prices go up while other software prices fall. Their evidence is provided in a table, "Evidence on Price Abuse: Price Changes Across Time," that appears in the report's Executive Summary and again in the paper's body. This table purports to compare "monopoly price trends for Microsoft to various competitive situations" and to demonstrate, first, that Microsoft's operating system's price rose during the 1990s, and second, that other "competitive" software markets had price declines throughout the 1980s and 1990s. Based on this table they conclude that "Prior to the Microsoft software monopoly prices invariably declined," and "Microsoft's prices for its monopoly products have increased dramatically." They also use the difference in these price trends to calculate the dollar value of Microsoft overcharges to consumers, which provided the title to their paper.

Given that this table is important enough to appear twice, and that the report's conclusions are based on the numbers contained therein, one would expect that some care and effort would have gone into the table's preparation. Instead, this table was put together with a level of sloppiness and a disregard for honest reporting that makes the typical late-night psychic network infomercial or political advertisement appear moderate in comparison.

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² "The Consumer Cost of the Microsoft Monopoly: \$10 Billion of Overcharges and Counting," Consumer Federation of America, Media Access Project, and U.S. Public Interest Research Group, January 1999.

We can begin by examining the report's claim that software prices "invariably decline." Most conscientious researchers would be reluctant to make such an unequivocal statement at all, but if they did it would only be after an exhaustive examination of the evidence. What qualifies as an exhaustive examination for the Consumer Cost study researchers? They cite four studies of software prices and a Microsoft memo that discusses hardware prices.

Real vs. Hypothetical Prices. Three of the four cited software studies are academic in nature and appear to be constructed in the careful fashion associated with academic work. The problem is that none of these studies report the results attributed to them by the authors of the Consumer Cost study. In one case the cited paper is the wrong paper.³ Correcting that oversight, it is the case that although the papers do examine software markets in the late 80s and early 90s (although two examine spreadsheet markets only), they do not report price changes, contrary to the claims in the Consumer Cost study. Instead these studies report on "hedonic" prices, which are hypothetical prices computed by a researcher attempting to adjust for quality changes.⁴ The price declines reported in the Consumer Cost study are these hypothetical prices, and a reading of the papers makes clear that actual prices may have risen or fallen, but if they fell at all they would have fallen far less than reported by the Consumer Cost study.⁵

The authors of the consumer cost study either did not read the papers to discover that they were using hedonic prices, or did not know what hedonic prices were, or didn't care. Either way, the fact that these studies used hedonic prices invalidates the Consumer Cost study conclusions since it is inappropriate to compare hedonic prices changes in one case with regular price changes in another.

The fourth software "study" cited in the report is an article in *Business Week*. That article, it turns out, contains one paragraph devoted to software price figures, which references a study by PC Data covering price changes over two years, hardly a long enough period to draw any conclusions. Amazingly, the main focus of the *Business Week* article was to report on an earlier version of the Consumer Cost study that today, in its current incarnation, refers to the *Business Week* article for support. Talk about a house of cards!

³ The authors cite a paper by Brynjolfsson ("Communications of the ACM," 1993) that doesn't provide any statistics about prices of software, hedonic or otherwise. They should have cited the paper by Brynjolfsson and Kemerer (*Management Science*, 1996) which does provide the data they put in their table. It is fairly clear that the authors never went to the original sources they cited, but instead took the results from Sichel's book (*The Computer Revolution*, 1997) and then cited the original sources.

⁴ Hedonic prices are constructed as follows: if computers are twice as powerful as last year, but cost the same as last year, that would be the equivalent of a 50% price drop using hedonic prices, even though actual prices hadn't changed.

⁵ Sichel (see footnote 3) reports, for example, that WordPerfect cost \$277 in 1984 and \$276 in 1993.

Cheaper Windows. The authors of Consumer Cost also rigged the game in their examination of price changes of the Microsoft operating system. As best as I can tell they compared the 1990 cost of Windows 3.0 (without including DOS, which was required to run Windows 3.0) with the cost of Windows 98 (which comes with its own built in version of DOS). This obviously overstates any price increase since they start with an artificially low price for Windows. During the course of research for my forthcoming book with Steven Margolis⁶, I looked at old computer magazine advertisements to find out what some actual prices were. In April of 1990, DOS 4.01 and Windows 386 together cost \$205. In December of 1990, DOS 4.01 and Windows 386 together cost \$205. In December of 1990, DOS 4.01 and Windows 386 together cost \$205. In December of 1990, with the full version was \$185. In November of 1998 the full version of Windows 98 cost \$169 with the upgrade (which virtually everyone gets) only \$85. This is not consistent with the claim of price increases, to say nothing of large price increases, and ignores the numerous improvements to the operating system.

They also would have the reader believe that Windows 3.0 in 1990 (without DOS) is the same as Windows 98, although Windows 98 includes disk compression, memory management, disk defragmentation, typeface managers, a large collection of fonts, fax software, cable connection software and a host of other features; any one of which would likely have cost as much as Windows 3.0 in 1990, which did not contain these features. This is a pure case of comparing apples with oranges, and it is totally wrong to do so. The very point of using hedonic prices is to overcome this comparison problem, but unfortunately even hedonic prices can't make these comparisons with any precision.

The study's authors (whoever they are, since there are no individual authors listed – what ever happened to full disclosure anyway?) also make other egregious errors of analysis. Comparing software price changes with more dramatic hardware price declines, as they do, is a mistake so elementary that it would draw a failing grade in a freshman economics course. Software prices would not be expected to bear any particular relationship to hardware prices. It is like saying software engineers are overpaid because their salaries have been increasing while the price of disk drives has been falling – this is just an erroneous comparison.

Conclusions without Support. The bottom line is that the results reported in the Consumer Cost paper are totally without support. It is conceivable, nonetheless, that it might have reached the right conclusion for the wrong reasons. Other findings, however, indicate that the study is in fact dead wrong in its conclusions.

The claim that "prices invariably declined" prior to Microsoft's dominance can easily be shown to be false. Consider the "Word Processor and Spreadsheet Prices" chart below (excerpted from our forthcoming book). This figure presents the average wholesale price of word processors and spreadsheets over a 12-year period in the PC market. Do word processor prices, which were approximately \$130 in 1986 and \$165 in 1992, follow the "price always falls" maxim? Immediately, we have a contradiction of their first claim.

⁶ Liebowitz, Stan and Margolis, Stephen. Winners. Losers, and Microsoft: How Technology Markets Choose Products.

Cheaper Applications Software. But this is not merely a case of a ridiculous overstatement by the Consumer Cost group. Their very premise – associating Microsoft with price increases – is incorrect. Rarely do we find such strong evidence that a firm pursues a low-price strategy as we find for Microsoft in software markets. In fact, it is clear from the diagram that prices didn't begin to fall until around 1991, and that is the very period when Microsoft started becoming dominant in these markets. So prior to Microsoft's dominance in these applications, prices were high and relatively constant; after Microsoft became dominant, prices fell dramatically. It is true that today Lotus charges less for 1-2-3 than Microsoft charges for Excel. But when Lotus ruled the spreadsheet roost spreadsheet prices were about \$150; today, when Microsoft rules, the price is about \$50. That is the key comparison.

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Word Processor & Spreadsheet Prices

In our forthcoming book, we completed a detailed examination of the workings of the software industry, looking at market shares, quality and prices, in eleven subcategories of software applications. We found Microsoft's pattern of lowering prices over and over again.

We were initially concerned that these price declines might have been caused by some external factor possibly affecting prices in all software categories over this period, and didn't want to inappropriately attribute these price declines to Microsoft. So we tested to see if there was any evidence that prices usually fell. As far as we can tell Microsoft is the driving engine behind price declines in many software markets.

One of our tests examined how prices changed from the late 1980s to mid 1990s in the 15 categories of consumer software as defined by Dataquest, a firm that analyzes computer markets. As depicted below in "Impact of Microsoft on Software Prices," in five software categories where Microsoft did not have a product, prices fell by an average of about 15%. But in the 10

categories where Microsoft does compete, either with a separate product (8) or with a component of the operating system (2), ⁶ prices fell by approximately 65%. This is not a small difference.



The Microsoft Lesson. We also examined the Macintosh market, where Microsoft had achieved huge market shares in applications software years before it achieved these types of shares in the PC market, where its own operating system dominates. At a time when Microsoft had 70% market shares in the Macintosh market and 10% market shares in the PC market, how did Microsoft exploit its ostensible "monopoly" power in the Macintosh word processing and spreadsheet market? It charged a price approximately 25% lower in the Macintosh market than it charged in the PC market for the same product (Word and Excel), quite the opposite of what a real monopolist would do. And after it became dominant in both the PC market and the Macintosh market, Microsoft dropped the prices in both.

Similar analyses of other markets provided equivalent results--Microsoft benefited consumers with low prices. Obviously, most of what Microsoft's critics have claimed about Microsoft's prices turns out to be factually untrue. The truth, however, does not seem to be the goal of at least some of Microsoft's critics.

⁶ For example, the software category 'utilities' contains disk compression, defragmentation, unerase and other programs that compete with Windows, which contains its own version of these utilities.