Book review

Winners, Losers & Microsoft: Competition and Antitrust in High Technology; Stan J. Liebowitz and Stephen E. Margolis; Oakland, CA, Independent Institute, 1999

Standards and high technology products often exhibit network effects, the characteristic that consumers benefit from synchronization of the product or standard. Switching to a new product or standard can require coordination in the presence of network effects since those who switch first lose the benefits of synchronization. But do network effects necessarily cause market failure? The presumption in the economics literature is yes, that historical accidents affect market choices and cause lock-in to inferior products and standards. The paradigmatic example is the QWERTY arrangement of the typewriter keyboard, as advanced by Paul David (1985); VHS video tapes and the IBM PC are other examples of alleged market mistakes. Stan Liebowitz and Stephen Margolis explode this conventional wisdom in their new book, Winners, Losers & Microsoft.

The book could not be more timely, and has already received attention in the popular press. Standards are currently evolving and emerging in many high technology industries. If the market makes mistakes in the choice of technology, now is the time for enlightened government intervention to avoid the considerable costs of inefficient lock-in, particularly lock-in that might result from Microsoft’s monopoly-seeking efforts.

As Liebowitz and Margolis emphasize, network effects models demonstrate only the possibility of inefficient lock-in. The QWERTY tale consequently plays a crucial role as a case of inefficient lock-in. According to David’s telling, a historical accident lead to the adoption of QWERTY—an 1888 typing contest won by the world’s first touch typist, who learned on a Remington QWERTY machine. And lock-in prevented adoption of the superior keyboard invented by August Dvorak in the 1930s. Liebowitz and Margolis explode this telling in Chapter 2 (which is based on their 1990 Journal of Law and Economics paper “The Fable of the Keys”). Numerous typing contests occurred in the 1880s and 1890s, and many people had learned touch typing on both the Remington and Caligraph machines. QWERTY held its own in the typing contests. The flawed design of studies using the Dvorak keyboard (many of them supervised by Mr. Dvorak to generate interest in his machine) renders the conclusion that QWERTY was inferior to Dvorak questionable at best.

Chapter 3 discusses degrees of path dependence and lock-in. First-degree path dependence is durability, like a house which lasts for thirty years. A durable good will not be exactly the right size at each instant in its life; suboptimality at a moment
does not demonstrate an inefficient choice of size. Second-degree path dependence involves a choice today that turns out to be wrong due to subsequent developments or information. The choice in this case was efficient given ex ante information. Only third-degree path dependence, when a decision was inefficient given currently available information, leads to a remediable market failure.

Chapters 3 through 5 critique models of network effects and lock-in. Market mechanisms can address lock-in, although the theoretical models generally do not include these mechanisms. Ownership of the standard or technology plays an important role; just as a landowner (developer) benefits from internalizing positive externalities, the owner benefits from adoption of his standard. Owners of the standard can offer discounts on initial purchases, subsidize convertibility, or train specialists to use the new product. The owner of the better technology can outbid the owners of the inferior technology in this competition (pp. 57–58). Network effects are rarely very extensive; coauthors might wish to coordinate their choice of word processor, but the choices of others are irrelevant. Furthermore, a growing market for the product reduces the percentage of customers locked in to the old technology (p.111).

Chapters 6 through 9 (plus an appendix on the ongoing Microsoft antitrust case) consider the search for other examples of inefficient lock-in. The search is in vain. The tales of VHS versus Beta and the PC versus Macintosh wither under scrutiny. The belief that Beta was a superior technology is based on selective memory. The mechanisms were technically very similar and VHS won two of four tests in Consumer Reports during the crucial market determination. Consumers quickly decided they preferred the longer playing cassettes available with VHS. The PC-DOS operating system required much less memory than Macintosh, a crucial factor given the power of personal computers in the 1980s. Also, Apple did not make any commitment to backward-compatibility of its new systems; the Lisa and Macintosh systems were incompatible with each other and the Apple II. Consumers aware of switching costs in network markets will be reluctant to lock-in with a company anxious to exploit their position.

A survey of software markets in Chapters 8 and 9 finds no evidence of lock-in to inefficient programs. The authors use software ratings published in personal computer magazines as a measure of program quality and find that market share tracks quality very closely. The best product wins, a rule that holds for Microsoft, too; Microsoft products which fare poorly in quality ratings (MS Money, the Microsoft Network) do not dominate their markets. When a new best product comes along, it usually quickly dominates the market. The dramatic changes in product shares contradict the lock-in thesis. The authors suggest that the instant scalability of software, the ability to expand production quickly to meet market demand, differentiates software from traditional markets. Serial monopoly results, where one program dominates the market for a period, only to be surpassed by a better program.

The book has no real weaknesses. The authors might underestimate the potential for lock-in in software markets due to special circumstances over the past ten years, including dramatic growth in the PC market and low switching costs resulting from the change to Windows. And in no market that the authors look at has a Microsoft
product ever lost a dominant position. Of course, no Microsoft product has ever lost its lead in the quality ratings either. Perhaps Microsoft bashers can rally around this small bit of evidence.

The authors follow in the tradition of Ronald Coase and Stephen Cheung of looking at the actual performance of markets rather than relying on market failure result from mathematical models. The many examples of lead changes in network markets (VHS supplanting Beta, Windows replacing DOS, MS Word over WordPerfect, Excel over Lotus) leave the proposition of inefficient lock-in in tatters. One must wonder why so many economists seemed ready to embrace the theory.

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