Chapter IX

On Software Piracy*

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Abstract

The pervasiveness of the illegal copying of software is indeed a worldwide phenomenon. Economists argue that when the piracy takes place at the end-users’ level, the original software developer finds it profitable to allow limited piracy when the effect of network externality is reasonably strong in the users market. We argue when the piracy is of retail in nature, the same logic cannot be extended as the reason for piracy and show that it is always optimal for the original software developer to protect its software even when the effect of network externality is strong in the end-users’ market. We suggest that piracy depends on more fundamental issues like demand environment, market structure, nature of piracy and nature of competition. The other issue we cover here is the economic impact of piracy on the welfare of a society. We discuss various policy implications on regulating piracy in developing as well as developed markets.

Introduction

In this age of digital technology, the heavy use of computer-related jobs using various software packages in our day-to-day activity has become a rule rather than exception. With the advent of digital technology and the popular usage of software packages, one
thing that is also making headlines at the same time is software piracy. The pervasiveness of the illegal copying of software is indeed a worldwide phenomenon. It is not only having a profound effect on the users of the software, but also on the software industry as a whole. It is also having a tremendous effect on the development of digital intellectual properties and technologies. Software piracy is rampant because of the very nature of the product. Software production incurs large development costs, but once developed, the manufacturing costs of fabricating a copy of the software program are almost negligible. In other words, replicated copies of the original software incur zero costs and this is precisely why software piracy presents such a lucrative and effective option for those who are out to make a quick profit.¹ This implies a huge loss of potential customers of original software buyers, which directly translates into revenue losses for the software industry. Software manufacturers, through their trade organizations, have been asserting the huge damage inflicted on their businesses by the illegal use of software. In 1995, the Business Software Alliance (BSA) claimed that the industry lost “$13 billion per year,” “$35 million per day,” and “$407 per second” from software piracy. The 1998 Global Software Piracy Report released (in May 1999) by the BSA and the Software & Information Industry Association (SIIA), the two leading trade associations for the software industry, estimates that of the 615 million new business software applications installed worldwide during 1998, 231 million – or 38% – were pirated. In other words, one out of every three software applications installed worldwide was pirated! In 2001, the corresponding figure remains at 40%.² Revenue losses to the global software industry due to piracy were estimated at $13.08 billion in 2002. Asia, North America, and Western Europe accounted for the majority of world revenue losses. In 2002, the combined total losses for these regions stood over $10.5 billion, and within that Asia alone accounted for a loss over $5 billion. These losses not only pose a serious constraint on the growth of the software industry but also adversely affect investment decisions and limit the development of new software products. At the same time, rampant piracy inhibits job creation and government revenue contributions. As a matter of fact, PricewaterhouseCoopers (1998) estimated that if world governments had reduced software piracy rates to benchmark levels³, direct and indirect employment would have increased by 521,663 jobs and tax revenues by as much as $13.7 billion in 1996/97 alone for the non-U.S. economy. For the U.S. economy, reducing piracy would have generated an additional 130,000 jobs and nearly $1.0 billion in tax revenues in 1996. And this problem of software piracy only gets bigger with the revolution and intensification of the Internet. “What Do You Want To Pirate Today?” reads a banner at one of the many sites that can be found by any user doing a basic Internet search for the word “warez” – the online term for unlicensed programs. The emergence of the “Web” has added a new dimension to software piracy by permitting electronic sales and transmissions of illegal software on a grand scale.

Given this, conventional wisdom suggests the need for the legal software firms and governments to take a harsh approach on piracy of software. Interestingly, a group of economists would ask the question, in reality, is the original software developer or the government or the controlling authority seriously interested to stop piracy? In their recent work they actually show that the answer is not necessarily positive. This strand of literature (Conner and Rumelt (1991), Takeyama (1994), Slive and Bernhardt (1998), Shy and Thisse (1999)) provides us with the unconventional wisdom on the issue of software
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