

Chapter 55

Analyzing Software Piracy from Supply and Demand Factors: The Competing Roles of Corruption and Economic Wealth

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ABSTRACT

This study analyzes the competing roles of economic wealth and corruption on software piracy based on the supply-demand perspective. The study argues that even though greater economic wealth may encourage people to buy legal software instead of using pirated software, the ease of access to pirated copies in the open market as a result of corruption can have a stronger influence on the decision to use pirated software. The empirical results also reveal that while an increase in economic wealth can reduce software piracy, its effect tends to be moderated by the level of corruption in a country. These results indicate that a pricing strategy that makes software more affordable is not a sufficient policy for combating software piracy. Additional policies aimed at combating corruption should be implemented concomitantly for effective resolution of this problem.

INTRODUCTION

Software piracy is a major threat to firms operating in the software industry. Although these firms rely on the sale of computer technologies that have low goods-related costs, they tend to have extremely high research and development costs associated with their products (Keil *et al.*, 2000; Rasch & Tosi,

1992; Swanson & McComb, 1991; Zmud, 1980). For this reason, the spread of software piracy is a serious problem. Estimates show that almost half of all software used around the world may be pirated (BSA, 2007). The use of pirated software is not limited to personal use within households, but it has spread to governments, business sectors, and educational institutions (Gan & Koh, 2006; Mishra *et al.*, 2007; Reiss & Cintron, 2011).

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Scholars have suggested that the decision to use pirated software, rather than purchase licensed copies, is related to the moral predispositions and justification of individuals, which have their roots in ethics (Chiou *et al.*, 2012; Cronan & Al-Rafee, 2008). Specifically, Davidson and Griffin (2000) defined ethics as “an individual’s personal beliefs regarding what is right and wrong or good or bad” (p. 114). Past literature has suggested that educating individuals about ethics, in order to clarify the risks involved in using pirated software, can help reduce their propensity to use it (Ding & Liu, 2009; Peace *et al.*, 2003). However, other factors also come into play in the spread of software piracy.

In the social sciences, researchers argue that the most effective way to deal with a societal problem is to understand its root causes (Gregor, 2006; Lee *et al.*, 1997; Pearl, 2000; Salmon, 1998). With the aim of combating software piracy problems, scholars in this field have identified many factors that affect the rise and fall of software piracy. As mentioned by Yang *et al.* (2009), these factors tend to be both economic and cultural. However, in the case of software piracy, although many studies have focused on its determinants, most have only analyzed these determinants independently and have ignored the possibility that some may be moderated by other variables. One exception to this limitation is a study by Moores (2008), who showed that an increase in economic wealth may not necessarily lead to a reduction in software piracy in every country, as national culture had a moderating effect (Leidner & Kayworth, 2006). Most of these prior studies also have tended to focus on the role of these determinants on a cross-sectional basis. Studies have yet to show how changes in these factors over time can affect software piracy.

The purpose of this paper is to fill in some of these research gaps. While previous studies have alluded to numerous determinants of software piracy, this study argues that software piracy is fundamentally determined by supply and demand factors. Specifically, the two key determinants of

software piracy of interest are the change in the level of economic wealth and the change in the level of corruption in a country, as these appear to be good predictors of the supply and demand of pirated software in the marketplace. On the demand side, an increase in economic wealth tends to reduce the use of pirated software because licensed software is available at reasonable prices and purchasers can enjoy technical support from software vendors. On the supply side, an increase in corruption tends to increase the use of pirated software because it makes illegal copies easier and cheaper to obtain in the open market. The first objective of this study is to investigate the individual impact of changes in these two key factors on software piracy. The second objective is to investigate whether the relationship between the change in economic wealth and software piracy is moderated by the level of corruption. This study argues that even though the role of economic wealth has been indicated as a major determinant of software piracy (Cronan & Al-Rafee, 2008; Depken & Simmons, 2004), its effect can be attenuated by the level of corruption in a country.

The empirical results of this study show that the change in economic wealth and the change in corruption, individually, explain the overall variations in software piracy. Specifically, an increase in economic wealth over time is associated with a decrease in software piracy, while an increase in corruption over time is associated with an increase in software piracy. In addition, the effect of changes in economic wealth on software piracy is moderated strongly by a country’s corruption level. One possible explanation for this finding is that corruption may indirectly reduce the effectiveness of the government officials who are responsible for controlling intellectual property violations because they may be bribed by illegal software vendors. This situation can lead to an abundance of pirated software in an open market. Easy access to pirated software consequently induces people to obtain pirated copies regardless of their own personal financial ability to buy licensed software.

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