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A Comment on Gayer and Shy

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The digital storage of music, films, software and other information products and the possibility to distribute them at almost no cost through the internet has greatly facilitated the illegal copying of theses products. The protection of intellectual property rights has been a big political issue in recent years. Publishers and software makers claim that digital piracy causes billions of dollars of lost revenues. It seems very likely that these claims are exaggerated. One obvious criticism is that many people who download an illegal copy of a music CD or a software product have a willingness to pay for this product that is lower than the regular shelf price, so they would never have bought this product in the first place, even if piracy was impossible. But, of course, if the music and software industry wants to raise the attention of politicians and the public, there is a strategic incentive to overreport the damage that is being done.

The authors of the current paper point to another, more subtle reason. They argue that these products often involve network externalities, i.e. the more consumers use the product, the more valuable the product becomes to each of them. Thus, if more (illegal) copies are distributed, the valuation of those consumers who buy a legal copy increases and they can be charged higher prices. Gayer and Shy show that if these network externalities are sufficiently strong and if some consumers can be induced to buy a legal copy because they value the "support" that goes with it, then it may even be the case that the publishers benefit from digital privacy. They also show that there may be a conflict of interests between publishers, lawyers and artists. While lawyers always benefit if digital pirates are prosecuted, publisher only benefit if this induces pirates to actually buy the product instead, while artists may even be harmed if the consumption of their products has positive external effects on other products they sell (e.g. concert tickets).

The point that network externalities may play an import role is clearly well taken and deserves to be emphasized. However, I am not convinced by the arguments offered in the paper that publishers may actually benefit from the move of non-digital to digital piracy for the following reasons:

1. First of all, if publishers benefited from this development, why would they make such a fuss about digital piracy? The argument given by Gayer and Shy seems to imply that publishers do not understand their own best interest.

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2. The model offered by Gayer and Shy requires that there are (strong) network externalities that affect not only the valuation of consumers of the product itself, but also the utility they get from the support if they legally buy the product. I can see that my valuation of a digital product increases if there are more users of the same product. It could increase directly, because there are now more people with whom I can talk about the music or the film or because I can interact with more people who use the same piece of software. It could also increase indirectly, because more users mean that more complementary goods for this product will be offered. But why would my utility for services that I obtain only if I legally buy the product increase if there are more illegal users of the product? The authors do not offer any example that motivates this crucial assumption.

3. But even if this assumption was plausible, the analysis offered by Gayer and Shy is flawed, because they do not consider the possibility that the publisher may price discriminate if digital copies are not available. Consider again the example of Section 2. Result 2 says that publishers benefit from the move to digital piracy if the utility derived from service is large compared to the valuation of the product and if the cost of making a non-digital copy is high as compared to the quality of the non-digital copy. The reasoning is as follows. If digital copies are not available, the publisher will sell to the service-oriented customer only and the non-service-oriented customer will not make a copy. If digital copies are available, however, the non-service-oriented customer will make a copy which increases the utility of the service-oriented customer from buying the product, so he can be charged a higher price. Thus, the publisher is better of if digital piracy is possible. However, the argument ignores the possibility that the publisher price discriminates if only non-digital copies can be made. He could sell a copy of the product without any services to the non-service-oriented customer at price $p_1 = 2V$ and a copy with services to the service oriented customer at price $p_2 = 2(V + S)$. This yields a profit of $4V + 2S > 2V + 2S$ (his profit with digital piracy).

However, even if publishers do not benefit from digital piracy, the paper of Gayer and Shy seems to suggest at several places that social welfare unambiguously increases. After all, marginal cost of a digital copy is close to 0, so standard efficiency arguments imply that social welfare is maximized if the product is distributed for free. However, this argument relies on the static nature of their model in which the digital products have been produced already and publishers restrict access to these products in order to redistribute wealth from consumers to themselves. Obviously, if the products have to be developed and produced, publishers, software-writers and artists have an incentive to invest in these products only if they can recoup their investment costs by selling enough at high enough prices to consumers. Thus, we get the standard trade-off between ex ante efficiency (incentives to invest) and ex post efficiency that is well known from the literature on patent protection. It is true that some degree of piracy increases overall efficiency as compared to a world in which piracy is completely impossible. It is also a valid point that the stronger network effects are the more piracy is desirable not only from an efficiency point of view but also for publishers. However, it is not clear whether we currently have too little or too much protection of intellectual property rights.