

**Review of the article “A Replication of Four Quasi-Experiments and Three Facts from ‘The Effect of File Sharing on Record Sales: An Empirical Analysis’ (Journal of Political Economy, 2007)”.**

The article proposed by Stan Liebowitz is a replication of four quasi-experiments and three facts from the seminal paper of Oberholzer-gee and Strumpf (OS) which has been published in the journal of political economy in 2007. The paper of OS is highly controversial as this is one of the rare paper which has found no or positive impact of piracy on legitimate sales. Stan liebowitz have already discussed the validity of the OS results but this is the first time it does it by replicating the four quasi-experiments and trying to find support for claims done by OS on their paper.

This attempt to replicate the results of OS is all the more important as OS paper was published in an important review in economics.

The Liebowitz's paper sheds light in the lack of transparency and accuracy in the OS paper and confirms that this non negative impact of piracy on legitimate sales is at least highly questionable.

The first replication is really convincing since the fact that decline in summer piracy in the US is a key requirement for the quasi-experiment proposed by OS. Liebowitz show that the OS result probably depend on a single observation which is the decline of piracy in summer 2003 (a decline which starts in March). Liebowitz argues that this decline can be the consequence of the RIAA announcement of legal pursuit which is consistent with the result of Bhattacharjee and al. (2006). We have to note that the same decline was observed in Adermon and Liang paper (2014) with the IPRED in Sweden and as in the figure proposed by Liebowitz in Figure 1, the decline have stopped few months after the announcement.

The second replication shows that sales in the east time zone declined contrary to the claim of OS. Again the data used by the author are more complete than those provided by OS. However it seems to me that the main problem which is, as far as I know, not discussed by Liebowitz or OS is the claim that US students download more or faster when European are sleeping! Downloading large files in Europe before the generalization of DSL broadband was slow and prevents to do something else with the computer, to overcome this problem a lot of downloaders let the computer downloading during the night. I don't have data to prove this claim but it seems to me that the decline in album sales in the east time zone is not the only problem of the OS result.

The third replication is one of the most interesting as the author replicates the same estimate of OS and find a different result even if qualitatively the same. This is why this replication paper is important, nothing explain the difference between the result of the author and the result of OS except a mistake or variation in the data used as an input in the estimate.

However in the result of Liebowitz it remains difficult to explain why the introduction of the unemployment rate in the estimate makes the piracy variable significant?

The fourth replication test the claim that music genres which are most downloaded suffer for different decline in sales. The result of OS wasn't significant making the replication less useful, however it again rises questions about the method used by OS, which appear very inaccurate. We also have to take in consideration that there exist no paper which have provided an accurate and undisputable measure of piracy, there was in the early 2000 different networks with varying audience depending on the number of internet users who was using it, not a single metric is able to provide a robust measurement of piracy. It's also possible that some of these networks concentrate more or less some particular music genre making this experiment very difficult to handle.

To sum up I would say that this paper and its replication is an important contribution to the debate about the validity of the OS result.