Do copyrights encourage creativity?

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1 Introduction

Copyright comprises an important share of intellectual property. Protecting any work based on creativity, copyright laws have been giving ownership to creators. Copyright laws can be traced back all the way back to Napoleonic France. After Napoleon's annexation of Lombardy and Venetia, copyright laws were incorporated in these Italian states. This report navigates through the results that Giorcelli and Moser encountered on their paper "Copyrights and Creativity: Evidence from Italian Opera in the Napoleonic Age" (2020). Using the data on opera copyrights, we ultimately aim to replicate the results and test the effect on this policy introduction. Moreover, we are interested on the efficiency of employing this type of intellectual property into fostering creativity. We are aware that results from this report will not reflect a modern context due to the law differences. The length of modern copyright laws implies that effects will not be exactly similar. However, we found in this report that copyright laws indeed enhance creativity and can be used to interpret a sort of effect nowadays.

2 Data & Analysis

We proceeded to replicate a graph found in the paper. The figure goes over the trends over time for two groups: Lombardy and Venetia, and the rest of the Italian states. **Fig 1** shows these trends for average number of new operas in a year, where it is emphasized the enactment of the 1801 copyright law. First-hand we can observe that for Lombardy and Venetia had a noticeable increase in the mean number of operas. There is some volatility found in the figure, however, this is due to small size of the treated group. In this scenario we are dealing with just two states in our treated, compared to the control group "other states" which includes six remaining Italian states without copyrights: Sardinia, Modena and Reggio, Parma and Piacenza, Tuscany, the Papal State, and

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Sicily. Taking this into account, as previously mentioned we can notice that there is an effect from enacting copyright laws. Moreover, we can assume that there is some parallel trend even though it is not clear, again due to the treatment group size.

Since it is hard to tell from the figure, we decided to create a table of the average new operas with different measures. If we observe **Table 1**, we can notice that we added multiple classification under which we are observing new operas. Annals of Opera was a prestigious publication on operas, thus using it as criteria on whether creativity has been boosted. Similarly, Amazon has been used as a "lifelong" or legacy effect. Both of these will be used to show whether under copyright laws there has been a enhance in creating content that fit under these prestigious criteria. It is clear from the table that Lombardy and Venetia have greater averages at every classification and time category. Assuming, parallel trends, we can say that these increases in numbers after the copyright laws were introduced are an effect of the former law.

Table 1 New Operas Per State and Year across Eight States within Italy

Period	Lombardy and Venetia	Other States
All Operas (N = 657)		
1781-1820	3.062	1.717
1781-1800	1.575	1.350
1801-1820	4.550	2.083
Operas in Annals of Opera (N = 58)		
1781-1820	0.426	0.121
1781-1800	0.179	0.083
1801-1820	0.600	0.158
Operas in Amazon [2014] (N = 39)		
1781-1820	0.265	0.088
1781-1800	0.036	0.025
1801-1820	0.425	0.150
Operas in Annals or Amazon (N = 74)		
1781-1820	0.529	0.158
1781-1800	0.179	0.092
1801-1820	0.775	0.225

Furthermore, we decided to run some diff-in-diff regressions which can be observed in **Table 2**. The first regression **(1)** goes over all operas with a known composer first name and a known title, using as outcome the number of operas per year and region. It is important the addition on these fixed effects in order to control for factors that can influence the context on copyrights. For instance, in Italy, the south is known for its artistic culture ranging from art to music and theater. As we can observe our coefficient 0.869 is not statistically significant. Then, we decided to run the

same regression using as outcome the number of number of operas per year and region that are: historically popular, and durable operas. The former and latter outcomes belonging respectively to the regressions **(2)** and **(3)** in **Table 2**. For these, our coefficients seem to be plausible. However, we did not obtain statistical significance. Meanwhile, for our last regression we did get statistical significance. For this one, we re-ran our first regression without fixed effects. Now that there are not fixed effects, we are capturing more variability in the data by not taking into account the differences that these categorical variables can cause. .

Table 2 Regression Results

	(1)	(2)	(3)	(4)
Treated X post-1800	0.869	0.404	0.210	1.341*
	(0.615)	(0.225)	(0.197)	(0.600)
Post-1800				0.883**
				(0.332)
Treated				0.417
				(0.494)
State FE	Yes	Yes	Yes	No
Year FE	Yes	Yes	Yes	No
N	182	182	182	182
R^2	0.487	0.268	0.375	0.225

*** p ¡ 0.001; ** p ¡ 0.01; * p ¡ 0.05.

Even though we did not find the statistical significance that we hoped for our clustered approach, we still have for the more robust one. We can observe that our standard errors are larger for robust one than for clustered. This could mean that clustering in our data is not helping and taking away the variability that we want to explain the effect. This aligns with concerns previously mentioned, where we discussed that problems that sizes can bring in this report. Having two states for treatment and six for control seems is not enough to be clustering.

3 Conclusion

Understanding at the effect that copyright laws in the opera industry ended up being more complicated that it was expected to. This work can have many approaches and statistical applications, however, this is merely a report. In the scenarios that we followed through we faced some trouble because of how the data looked. However, we were still able to catch an effect coming from these laws. It seemed that our robust results not only had a statistical significance but also some economics significance. We can say that copyright laws indeed have an effect in creativity. Although we could not manage to get into specifics, it is same to assume that our robust results could translate into a data that does not face size problems. Furthermore, our robust results can be applicable

to nowadays copyright context. Even though our results are arguably underestimating the effect nowadays, it still gives us sense for it. The modern lengths on copyright laws imply that our calculated effects would be even larger. After this report we incite to find clever ways to keep studying copyrights despite the technical problems that this type of data can bring.

Appendix A: Figures

Fig 1