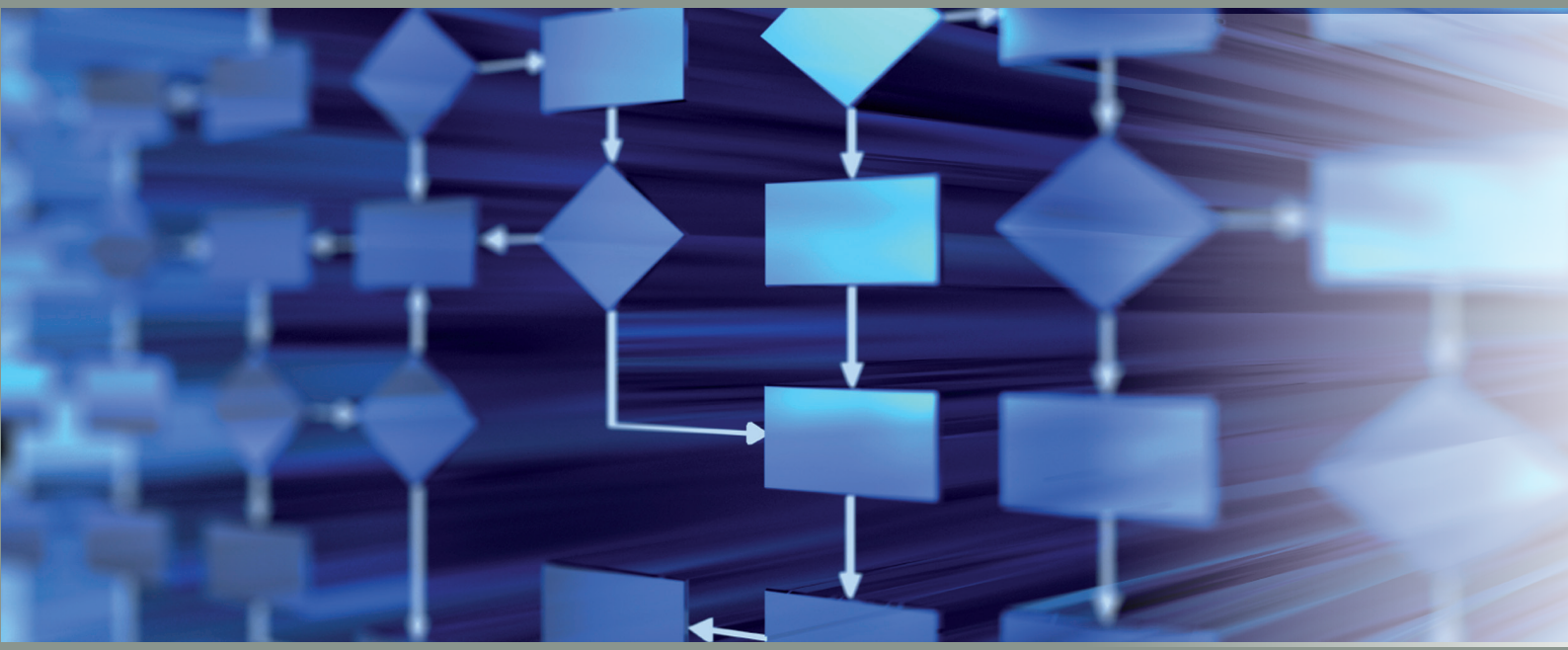
Economic Research Working Paper No. 62

Grand rights and opera reuse today

Alexander Cuntz



October 2020

WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

Grand rights and opera reuse today

Alexander Cuntz [a]

[a] *World Intellectual Property Organization, 34, Chemin des Colombettes, 1211 Geneva 20, Switzerland. The views expressed are those of the authors, and do not necessarily reflect the views of the World Intellectual Property Organization or its member states.*

Abstract

This article studies the economic role of grand rights in the incentives to stage and reuse works from the opera canon. It complements previous research on the incentives to create new opera in the way it looks at copyright taxing availability and follow-on creativity around works. Based on a unique dataset of global opera performances, we find that changes in copyright status increase the number of total performances individual works receive on stage once copyright expires. Moreover, we provide preliminary evidence on chilling, long-term effects of status around premiering operas and revivals at the beginning of the copyright term. Based on these findings, we discuss limitations of the study and novel options for copyright policy frameworks.

Keywords: copyright, opera, creative reuse, performance, programing

1. Introduction

Opera is exceptional because it relies on a large body of popular public domain works, something that does not apply to many other fields of the creative economy. In the latter, more recent titles are often in the center of publishing

Email address: alexander.cuntz@wipo.int (Alexander Cuntz)

The author gratefully acknowledges operabase.com for sharing their data. Moreover, the author would like to thank Anastasiya Letnikava and Deyun Yin for excellent research assistance as well as Stefan Bechtold, Thomas Dillon, Carsten Fink, Mike Gibbs, Gundula Kreuzer, Nicholas Payne, Guy Pessach, Cécile Roure, Ruth Towse and seminar participants at ETH Zuerich, the Ninth European Workshop on Applied Cultural Economics (EWACE) and at the 2019 Annual Congress of the Society for Economic Research on Copyright Issues (SERCI) as well as two anonymous reviewers for helpful comments on previous versions of the work.

activity and investment (see, for example, research [1] on books, or [2] on music). In the case of opera, however, Velde [3] documents a strong increase in the share of works by dead composers and average age of staged works (some, but not all in the public domain) programed in Europe's main opera houses between 1750 to 1950. Substantial increases in performers' wages might have caused the canon to change, with more mobile superstars demanding higher wages due to greater competition among opera houses and improvements in transportation technologies across Europe. However, their research also argues for a potential role of copyright in (historic) programing choices and the evolution of what is known as the 'canon' of works as it is today. Whatever the exact reasons, it is striking to see only a single composer from the 20th (Bernstein) listed among the top 50 most performed operas in 2017 worldwide, while new opera composition continued to flourish over time.

Empirical studies of economic history evidence that the introduction of copyright with a term of up to 30 years successfully incentivized the creation of new, high-quality operas [4]. However, term extensions that followed in 19th century Italy did not further encourage opera production. In theory, copyright grants authors (in the case of opera, multiple authors including composers, librettist) with exclusive rights to exploit works and restrict certain uses, based on a temporary monopoly in markets. Monopoly rents allow authors to recoup their initial investment. In the case of opera, however, this logic might not always hold. Too heavy competition on opera stages could limit the discovery and establishment of works in the canon as well as the collection of sufficient rents by authors, with copyright potentially limiting revenue expectations for some performances where costs for licensing so-called 'grand rights' to performances from authors are too high for opera houses. So, while previous research has focused on the incentives to create among composers, with only few exceptions in popular music reuse and reuse on Wikipedia [5] [6], this article addresses the role of copyright in the incentives to stage and reuse works from the opera canon among opera houses. More specifically, although the literature has iden-

tified various other determinants of opera programing,[3] we empirically quantify the effect of copyright status changes on the reuse of works in today's global programing. Second, we investigate antecedents and historical status effects as potential factors explaining the presence of public domain works in the opera canon.

We find that changes in copyright status increase the number of total performances individual works receive on stage today once copyright expires. Moreover, copyright also taxes the diffusion of works when reused in new stage productions only: Arguably, production premieres are of particular importance for the discovery of new and established works on stages as these works are not part of houses' standard production repertoires. And, based on historic data from opera revivals in the early 20th century, we also provide evidence that copyright status affects the staging of opera from early on/shortly after premieres, with long-term implications for the diffusion levels of works. In this way, in the case of opera, copyright might act as a barrier to the stage discovery and establish-

[3]Previous research shows that popular works known as reliable income-earners often cross-subsidize less known modern opera in houses' programs, as the latter, even at reduced ticket prices, might not break even revenues [7]. In a similar vein, Heilbrun [8] documents a variety decline in repertoires of US opera houses in the 1990s. On similar institutional levels, the role of public subsidy and private funding in encouraging the production of a wider and more risky repertoire has been analysed for the USA [9]. Moreover, programing and new (public) commissions of work might also aim to reflect ethnic and gender diversity, or there might be various other socio-economic factors at play including educational institutions and their effects on audiences and tastes ([10] and [11]) And, more broadly, long-run persistence of a societys preferences for cultural goods continues to have an effect on contemporary measures of cultural activity in regions [12].
On an individual level, programing choices of opera managers and artistic directors might (also) be subject to enhancing professional reputation in their own peer group, including the staging of less popular repertoire [13]. Finally, opera recordings can be build around superstar singers, with featured individuals reaching larger audiences than in live performances [14]. In this way, it is possible that programing also accounts for the popularity and repertoires of individual singers houses can win and contract with.

ment of less known works at the beginning of the copyright term, including, arguably, the introduction of more avantgarde works to the canon. This is also an interesting finding from industry and policy perspectives. For example, recent discussions focus on preferential rates for online streaming uses of opera as well as streaming as a marketing tool for live performances and teaser for less known works. Arguably, these could help overcome some of the heavy competition from public domain works and limit stage capacity in opera. Moreover, industry stakeholders have proposed to continue collect licensing fees for works once copyright expires (such as Richard Strauss' Rosenkavalier in 2020) and re-invest these in programing of new works by living composers [15].

The article structures as follows. Section two reviews the existing literature and provides background on the opera business and the potential economic role of copyright in opera. Sections three and four describe the data and introduce the empirical strategy aimed to identify copyright status effects. Sections five and six present main results and discuss limitations and extensions of the approach. Section seven concludes with policy implications.

2. Background on opera and the economic role of grand rights

Staging opera performances today requires high fixed investment and 'heavy' physical infrastructure and there is limit capacity to reuse and perform works from the canon as the number of available stages and houses does not vary substantially over time (one exception might be festivals). However, limit capacity has been a concern from early on, including among composers of new works in 19th century France [3]. And, revolutions of 1848 might have put to a sudden end to the construction of new opera houses spearheaded by the European nobility, while 'bourgeois' demand for opera increased around the time [16].

From an economic perspective, the fixed number of 'slots' increases competi-

tion among existing works,[4] in particular for new, incoming works who compete 'uphill', i.e. they are unknown and untested compared to the established body of popularized works. Moreover, these, arguably, more avantgarde works tend to decrease attendance, sell at lower ticket prices and hold lower revenue expectations for opera companies [17]. However, even though not all new works are of high quality, they will only be discovered and have a chance to gain popularity, once they are reused and staged in houses, and not incumbent works from the back catalogue. Mere copies of the underlying work (say, distributing prints of the composer's musical scores) might not 'do the job' and help the discovery of the work in often heavily subsidized opera markets:[5] It is experimental reuse and new opera production on stage that conditions the experience and ability of audiences and critics alike to reveal and judge on the true quality of new, incoming works. Moreover, these new productions, arguably, are more investment-heavy and risky to stage as compared to those from the standard production repertoires of houses. So, all in all, copyright might tax the diffusion

[4] Professional opera companies usually share the stage with a ballet company, and in smaller theatres (for example, German B houses) with spoken theatre productions as well. This limits the number of possible performances per year and usually the number of different works that can be put on.

[5] In general, professional opera companies are often subsidized and managed by the state authorities as part of their public service. How much finance they receive and what the objectives of the management are strongly influence the choice of repertoire. Those that receive less subsidies are required to raise a higher proportion of their income from ticket sales and private donations; they are likely to chose a more conservative repertoire, which means producing more standard operas and repeating the same *mise en scene* productions (i.e. the same direction, scenery/costumes etc.). In our research design, country-fixed effects are intended to capture and account for some of the variation coming from different degrees of subsidizing of opera production in the various countries. In addition, 'repertoire' and 'stagione' system differences from one country to the next should not matter as we observe and count the number of performances and runs within a single season. In repertoire systems, several operas are performed during the season alternately; in stagione systems, one work is performed over a period of several weeks and then another follows. In between, the opera has to be rehearsed so the company is tied up with that and cannot perform.

of works as they are experience goods, in particular the entry and diffusion of less or unknown works channeled via new productions.

But copyright might also tax a work differently, depending on its lifecycle and diffusion stages. From an evolutionary economics perspective, new works are randomly drawn from a distribution of talents, independent of their initial quality. Then, these superstar markets are predicted to lock-in on a few new works from early on [18]. In these highly uncertain markets, if copyright mainly taxes discovery and diffusion early on, it will substantially change market outcomes. Alternatively, copyright's effect might well expand throughout and beyond the life of the composer until terms of protection end and status changes. In the latter case, extensions of copyright terms would become more relevant [4], while in the former cases, competitive disadvantage and effects on cohorts of works exposed to the first introduction and implementation of copyright laws (when they included rights to performance) would be more pronounced.

The opera context and 'grand rights' (rights to performance) are of particular interest because they are commonly licensed on a case-by-case basis in many jurisdictions such as the U.S., and are often not collected by collective management organizations (CMOs) or governed by blanket licenses in these jurisdictions (an exception is the Société des Auteurs Compositeurs Dramatiques in France). From an economic viewpoint, this implicates higher transaction costs whenever works need to be licensed for reuse on opera stages, compared to more standard transactioning in systems where grand rights are licensed through CMOs. Moreover, when works might be co-produced across countries and some of the production costs can be shared by several opera houses, houses are still required to transact, rent or purchase multi-territory licenses to performances when the work is under copyright in more than one jurisdiction.

Second, licensing costs for these type of rights are substantial and do matter for total performance (and new production) cost: For example, in the U.S.,

composers can typically ask for up to 6 to 9 per cent of the gross revenues of a performance (for example, see the guide of the British Academy of Songwriters, Composers and Authors [19]), next to singers, choreographers, costume designers and make-up artists, and various other costs involved in production. Moreover, next to licensing the rights to performance, it is possible that purchasing costs for copyright-protected music sheets (i.e. all parts of the opera and the full score for the conductor, for each individual musicians in the orchestra and for all singers) is another important factor when it comes to staging certain works or not. Copyright protection granted for these published scores in some cases exceeds terms granted to underlying original works, and publishing new 'critical editions' of the same work is often an important source of revenue for music publishers. The empirical approach makes an attempt to control for such countervailing costs factors in the analysis of opera programing.

Third, grand rights to opera composers and their collaborators historically predate so-called 'small rights' for non-dramatic works other than opera in many jurisdictions, often being introduced several decades later. One of the reasons why grand rights were introduced first was because operas were performed in a limited number of venues and were thus easier to monitor [20]. Moreover, France is an early mover in this respect with a system in place for the collection of composer fees for subsequent performances of their works, so-called royal 'privileges', well before copyright frameworks came into existence [21].

Finally, there might also be a systematic link between historic diffusion levels and the presence of opera works in today's canon. The international legal regime (for example, the Berne Convention) only slowly and sequentially unfolded across European countries, with bilateral and multilateral agreements being signed one after the other [22]. In turn, this might have given some cohorts of pre-Berne born operas greater chances than others to disseminate and popularize in foreign jurisdictions and manifest in the national canon of works. And, this also includes the unauthorized trading of works to foreign

stages. A good example of the phenomena is the wide-spread adaptation and repeated performances of foreign opera pieces on stages in 19th century London well before U.K. copyright started granting protection to foreign works [23], i.e. foreign works by German, Italian and French composers such as von Weber's Freischuetz, Rossini's Barbiere di Siviglia and Boieldieu's Jean de Paris. At the time, unauthorized reuse of foreign works generated a competitive cost advantage over copyright-protected alternatives because foreign works only gradually became eligible for domestic protection. In contrast, 'native' works on stage would require opera houses to license from domestic composers.

If copyright as a policy instrument is part of the explanation of today's manifestation of the opera canon on stage, it warrants cautious implementation as the standard underproduction-underutilization trade-off still seems to apply [24]: In the case of opera, copyright's potentially chilling effect on access to new works and their diffusion on national and international stages might have limited the full unfolding of the incentives to create as originally intended by those defining terms in the first place.

3. Data and descriptives

We build the empirical work on unique dataset of global opera performances from operabase.com. It records more than 33,000 runs (equating a total of more than 142,000 performances) and new productions of individual opera works on city level for more than 200 countries over a period of six seasons, 2012-13 to 2017-18.[6] New productions account for approximately 20 per cent of all performances recorded in the data. Operabase marks productions as 'new' on their

[6]Performances are fairly equally distributed across seasons. Around 5 per cent of all performances are semi-staged opera or concert performances which make limited use of props, costumes, etc.

Moreover, the geography and coverage of performances is global, even though performances in European and US cities are the most frequent: More than 85 per cent of performances are staged in Europe and Central Asia, another 9 per cent is staged in North America. Countries

first outing anywhere in the world (i.e. first appearance in the database).[7] In this way, they are the main point of entry for any material previously not staged, new or old. Furthermore, operabase data contains information on more than 1,400 individual composers and close to 3,000 unique opera works, at least performed once across the six seasons. An individual work, on average, had 22 performances on stage in the 2017-18 season, while the median number of performances was 9 times. The top 50 most performed opera works accounted for more than half (55 per cent) of all runs in the same season, Verdi, Mozart and Puccini's works being among the most cited in this list. In general, more than 90 per cent of composers are male and around 40 per cent/most composers are born after 1950 in the database.[8] Accordingly, for more than 30 per cent of all composers that record birth dates there is no death date, either because the data is not available, or, composers are still alive.[9] Where data on composers' nationality is available,[10] most composers originate from Italy, Germany, the U.S., the U.K., Russia and France, together accounting for more than 50 per

in East Asia and the Pacific account for close to 3 per cent, countries in Latin America and the Caribbean account for more than 2 per cent. The Middle East and North Africa as well as South Asia and Sub-Saharan African countries account for close to 2 per cent.

[7] They are considered as a fresh view of a work by a team of the director, designers and dramaturg brought into physical being. These productions are not from houses' existing repertoire of productions, nor are they rentals from other houses.

[8] 23 per cent are born from 1900 and until 1950, 12 per cent are born from 1850 and until 1900, close to 9 per cent are born between 1750 and 1850, and yet another 7 per cent are born before 1750.

[9] We do manual online searches for 26 composers born between 1820 and 1920 - which we suspect might be changing copyright status in the period of observation - and complete their missing data (death dates). We find that works of close to 60 per cent of these composers with initially missing data all have died after 1950 and would still be protected under copyright in a plus-70-years, postmortem jurisdiction. Around 40 per cent of composers have died before 1950 and are either likely in the public domain or, rarely, change copyright status in the observation period.

[10] Conceptually, operabase defines nationality via the country of birth of the composer, or as the modern country now covering the composer's birth city when the country ceased to exist.

cent of all composers. The operabase data gives a comprehensive view on global opera performances and only few caveats apply.[11] Figure 3 provides descriptive evidence on the average number of performances by composer birth date and for selected jurisdictions (i.e. jurisdictions receiving the most performances in our data). For 33 per cent of the total observations on work-year-country level (samples in table 1) the data records one or more performances in a given year and country, for 67 per cent of the total works are not staged (zero) in a given year and country. Half of the works that enter stages receive one to five performances, half of them performs five to fifty times in a given year and country. We complement data on performances with data on rental productions from operabase.[12] Data sharing and donation by operabase is gratefully acknowledged by the author.

Moreover, the data we deploy builds on previous data collection and extensive research efforts by others [4] that build on Loewenberg [25] as a 'reference catalogue' for operas created before 1940 including information on the location and date of premiers. Figure 1 in the Annex illustrates premier dates of opera works recorded in the Loewenberg data (i.e. the index of the book). Similar

[11] For example, the data does not allow to distinguish whether the work performed is an adaption or translation. However, the role of translations has been diminishing since the 1960s, with increasing desirability of fidelity among houses and audiences as well as original (language) works being performed using sur- or subtitle technologies on stage. Moreover, some operas are more expensive to stage than others because they demand more principal and specialized singers, larger chorus, complex sets, or a large orchestra such as Verdis opera Aida and Puccini's Turandot. Similarly, some voice types are in shorter supply than others and consequently might receive higher fees, depending on the overall supply of talent and skills in labor markets as well as the general alignment of opera training towards more standard repertoires [7]

[12] Operabase lists a total of 2,207 rental productions of opera, the earliest available production on these secondary markets for productions dating back to 1996. For each season in the six-year observation period, we calculate the stock of rental productions of an individual work produced in the same or in previous years.

to operabase (see Figure 2 for their records on composer birth until 1940), the Loewenberg data seems to well reflect increases of opera production over time, in particular the increase in opera production between the 1850s and the 1940s. 18 per cent of the total data from Loewenberg match to operabase records (observations on work-country level based on the sample in table 8).[13] The other 82 per cent of observations do not match as there are zero performances across the six seasons and hence these represent repertoire that is not part of today's opera canon (any more). In addition, we exploit previous research by various other musicologists and opera experts.[14] For example, this includes research on opera revivals of works composed by Verdi, Handel and Rossini in the early 20th century [26] and research on unauthorized trade and adaptations of foreign works in London opera houses in the early 19th century [23]. Based on these, revivals account for about four per cent of the total sample of 533 operas in table 8, and 65 per cent of revivals are still performed at least once across the six seasons in one or more of the 245 countries. All other observations in this sample (96 per cent) account for premiers and new works in a given year and country, i.e. only about 20 per cent of premiers are still performed today and match to the operabase data. Furthermore, we complement data from the International Music Score Library Project (IMSLP), now the Petrucci Music Library. The Library is a virtual repository of musical scores and recordings, most of which are in the public domain (or, for some modern composers, published under a creative commons license) and uploaded by a large community of online users.[15] This allows to gather opera and publication-level information on the availability, copyright status and estimated purchasing costs of music sheets

[13] We use stata package matchit to run a fuzzy matching of strings, i.e. composer names and opera titles. We manually inspect all matches above a similarity treshold of .5.

[14] Where necessary and available, we complement these sources with information from wikipedia or operadata.stanford.edu. For example, there is a dedicated wikipedia site for all opera works and revivals written by Handel, see here.

[15] The website/the repository can be accessed via this URL.

for a composition/work. This approach is not without limitations.[16]

Finally, we also collect historic, legal information on the expansion of territorial copyright in the 19th century and the emergence of international copyright regimes until and beyond the Berne convention. For example, we gather data on past characteristics of copyright frameworks from Pinner's extensive Encyclopedia [27] and underpinnings on international copyright and the Berne convention from [28] and [29]. This allows us to identify and establish timelines when jurisdictions first introduce national copyright, when they begin granting copyright to foreign works and when bilateral or multilateral treaties enter into force as precursors of authorized, international trade of opera works.

We approximate copyright status of all works of a composer in a given year and jurisdiction of performance by calculating the respective copyright term granted to the composers postmortem. The way we determine copyright status accounts for most legal specificities of jurisdictions (including the U.S.) such as international differences in term length as well as different points of departure for terms. For example, for works performed in the U.S., status changes 95 years after first publication of an opera work published in and after 1925. Works

[16] First, Petrucci as a source of information might be biased towards more popular music works/sheets uploaded by users. Second, sheets available on Petrucci may be incomplete, e.g. they might not always include the full score or set of parts for individual singers and musical instruments in the orchestra. Third, and importantly, availability on Petrucci is not a perfect indication that the music sheet of underlying the work is out of copyright: New engravings or typographical arrangements by editors and publishers can give rise to separate copyright protection in certain jurisdictions even when the term protecting the original work of the composer has expired in the same jurisdiction. For more than half of the works changing copyright status in our dataset, music sheets are available on Petrucci, and for close to half of the latter there is also a publication date and publishers recorded for music sheets uploaded to Petrucci. When using UK copyright laws that grant 50 years from the end of the year in which the engraving was first published as an approximation of copyright status of music sheets across jurisdictions, only four per cent of titles/publications are still under copyright.

published before this date are considered in the public domain. Moreover, in order to validate the status proxy across works and across all contributors to a single work, for a subsample of individual opera works, we also search for and include available information on other authors involved in the creation of the work. This is potentially relevant to the assessment of copyright status of the work as the 'last living author' (say, the death of one or more librettists of an opera). In cases where the copyright status of the opera is changing in the observation period, we find that for 81 per cent of individual works and other contributors we can validate this proxy. In cases where works' status are not changing and they are predicted to be in the public domain, we find that for 92.5 per cent this holds true, i.e. false negatives account for 7.5 per cent in the sample.[17] Figure 4 provides preliminary evidence on the average number of performances pre- and post-status changes for a subset of the data and selected countries.

4. Empirical strategy

In an ideal research scenario, we would randomly assign copyright status to a reference catalogue of operatic works and, based on this sample, estimate status effects on the diffusion and prominence of works on stages in different jurisdictions. As a next step, we might consider status effects on the 'intensive' and 'extensive' margins, i.e. investigate the effects on baseline chances of works to be included in stage programing, and the effects on additional performances and runs of a work.

However, in reality, there are various sources of potential bias: Quality and popularity of individual works ('quality bias') are largely unobserved. For ex-

[17] Here, we draw another 10-per-cent random sample from the total works not changing their status and classified as public domain by the status proxy, i.e. based on the death of the composer alone, and compare these to the latest death of other collaborators in the work, if applicable.

ample, popularity of older, public domain works more than copyright status of operas might explain diffusion levels we observe on national stages. Furthermore, programing choices on national stages, arguably, might favor works by native composers over foreign-born works ('home bias'). And, in composers' anniversary years (for example, the jubilee year of Richard Wagner in 2013 on the occasion of his 200th birthday) chances to see their works staged will systematically increase in the course of annual celebrations ('anniversary bias').

In a first series of panel regressions, we are interested in isolating the effect of copyright status from other confounding factors. We therefore focus on a subset of works that change copyright status over the observation period, an approach based on within-title variation similar to those previously used in copyright research [30].[18] In this way, we can implement individual-work fixed-effect (FE) models where, arguably, on the level of the individual work observed over time and in a specific jurisdiction, the only source of (time-invariant) variation in reuses is copyright status which rules out most of the biases described above. The level of analysis is on work-year-country accordingly. Moreover, we also rerun these work-level FE models for the subset of reuses that are flagged as new productions in our data which, arguably, also more tightly capture 'creative' reuses rather than mere follow-on runs of existing productions of the same work. To set up the standard FE model more formally, let y_{ijt} equal the (log) total number of runs of an opera i in a given year t and country j and let D_{ijt} denote its legal status in that year and jurisdiction.

[18] However, in her work, Reimers further accounts for inter-temporal substitution bias as she also uses the effect of copyright extension for her research design. Focusing within-title variation alone (as we do in our approach) can lead to biased estimates: On the supply side, opera houses might want to strategically wait to stage a work that is close to moving into the public domain to avoid the costs to license rights to performances in the near future, or, on the demand side, opera audiences might wait and postpone ticket purchases and attendances, expecting a decay of prices once the status changes.

$$Y_{ijt} = \alpha_i + \lambda_t + \rho D_{ijt} + X_{ijt}\delta + \epsilon_{ijt}$$

where

$$\alpha_i \equiv \alpha + A_i'\gamma$$

and ρ is the causal effect of interest, with other observed covariates X_{ijt} and the unobserved A_i. With repeated observations on performances of individual opera works, the causal effect of status on total performances can be estimated by treating α_i, the fixed effect, as a parameter to be estimated. The annual effect λ_t is also treated as a parameter to be estimated. Variation in copyright status mainly comes from two sources

(1) status changes for individual works in a specific country during the obervation period; an example is the body of works by Pietro Mascagni (†1945), an Italian composer; many of whose works changed status in January 2016 in several 70-plus-life jurisdictions.

(2) differences in status due to differences in jurisdictions' terms of protection, while accounting for the international rule of the shorter term (which only applies in some jurisdictions) [31]; more specifically, the latter rule permits to shorten the term of protection for incoming foreign works to the (presumably, shorter) term granted in the jurisdiction these originate from (but no less than the Berne minima of 50 years), i.e. while in one country the work might still be protected, it is part of the public domain in another.

In a second series of regressions, we are also interested in the longer-term effects of copyright status on today's performances, in particular status effects at the beginning of the copyright term on the diffusion and staging of new and incoming works. This is difficult as, typically, all new opera is 'treated' i.e. granted copyright, with very few exceptions.[19] We therefore use historical data

[19]Some modern composers such as Godfried-Willem Raes or Joachim Brackx publish most of their works under General Public Licenses (GPL) or Creative-Commons (CC) licenses which then can be performed and reused on stage without houses incurring licensing costs for rights

on opera revivals at the beginning of the 20th century to capture new works out of copyright status for exceptional reasons, treating opera revivals *as if* novel and unknown to audiences and critics at the time of their revival. We define 'revivals' as those works that shortly after their (first) premiers disappeared from stages and were not being performed for several decades, if not centuries, ahead. More formally, we select a simple, cross-sectional model on work-country level allowing us to identify correlation rather than causal effects for treatment (status) and outcome variables (performances). Moreover, in order to account for potential overdispersion in the count data we also deploy a negative binomial regression as an alternative model as well as logistic regression approach. In the baseline OLS, however, let Y_{ij} equal the (log) total number of runs of an opera i in country j (i.e. the sum across all six seasons). More formally, this is

$$Y_{ij} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

where X_1 denotes the legal status of the work in that jurisdiction at the time of revival/premier, with 1 if the work is a premier protected under copyright, 0 if it is a revival of a work in the public domain, and X_2 denotes the length of the copyright term in force at the time of revival/premier. Moreover, let X_3 flag works performed at least once across the six seasons and equal to 1 if the work changes copyright status in that same jurisdiction at the end of the copyright term, 0 otherwise, and let ϵ be the error term. Even though we believe that the approach is able to deliver meaningful estimates, it is not without limitations.[20]

to performances.

[20] More specifically, coefficent estimates for legal status may be biased because of the selection of specific works into revivals. On the one hand, chances of more or less popular composers and their works to be revived after their death or disappearance of the work might differ in the first place. For example, Mendelssohn's Juvenilia, or revivals of early Verdi works, due to the popularity and brand of the composer seem more easy to sell to audiences in the first place. On the other hand, arguably, it may be that revivals are of systematically lower quality compared to other works by the same composer and her (non-revival) works that continued to be performed on stages without interruptions. Yet in other instances, it seems revival opera was an outcome of works by the same composer cannibalizing each other at the time of (first)

We define all new works referenced in Loewenberg [25] premiering in the same period and same jurisdictions as revivals as treated observations. Moreover, we can also exploit variation in treatment measures as historic copyright terms [27] granted to the sample of copyright-protected, premiering works differs from one jurisdiction to the next.

5. Main findings

5.1. Short-term status effects on reuse: Status-changing opera at the end of the copyright term

Table 1 presents results for a first series of FE OLS and Poisson regressions where the dependent variable is the (logged) total number of runs of a work in a given year and country. In column (1) and (2), estimates are shown for the baseline FE OLS specifications: At the core, this includes an interaction term capturing the effect of copyright status on the level of the individual work, for all works changing status in the observation period (please refer to the data section for a description of how we approximate status and table 2 in the annex for sample descriptives). Works are either changing status in their country of origin or they are staged abroad and exposed to a distinct legal regime (term length), thus changing status in that jurisdiction. The changing status sample of performances builds on a total of n=179 unique works by 38 composers, while the overall sample of performances builds on a total of n=2,748 works by 1,310 composers. Columns (3) and (4) present estimates for (FE) Poisson regressions, better accounting for the underlying count data. All specifications include binary controls for foreign work status, works performed in their anniversary years

premiers.

Moreover, arguably, estimates might be influenced by the rise and competition from musical theatre and composition in the early 20th century. However, it is not clear to us why revivals and new works of opera created in that period should have been affected in very different ways. If anything, it seems that new works might have been less subject to these changes. Composers of new works might have attempted to better accomodate contemporary changes in tastes and evade some of the new competition imposed by musical theatres at the time.

Table 1: FE OLS and Poisson regression table

DV:	(1)	(2)	(3)	(4)
total performances of an individual work	ln	ln		
copyright status x changing sample	-0.08121	-0.09455*	-0.1037**	-0.1496***
	(-1.94)	(-2.08)	(-2.85)	(-4.32)
foreign work	-0.3554***	0.03039	-2.2415	-0.8391***
	(-21.26)	(0.06)	(-1.86)	(-89.65)
anniversary	0.1118***	0.1119***	0.1477***	0.1424***
	(4.75)	(4.82)	(10.02)	(9.65)
age/birth cohort			.0011***	
			(3.97)	
year FE	yes	yes	yes	yes
country performance FE	yes			yes
country performance-origin FE		yes	yes	
work FE	yes	yes		yes
Observations	50406	50406	50406	50406
AIC	124697.9	123732.5	277303.4	263661.2
BIC	125430.7	129347.1	284171.5	264385.1

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

and (performance) year FE. Models (1) and (4) contain performance country-level, and models (2) and (3) include interacted FE for the country of origin and the country of performance of the work. Because the model with work FE does not always converge, model (3) includes a further age control for the type of work, i.e. a proxy based on the composers year of birth. Notably, the copyright status interaction term is negative in all and significant in three out of four specifications. More specifically, as models (3) and (4) suggest copyright status decreases the total number of runs a work receives by around 10 to 15 per cent. Foreign work status, where the country of performance differs from the nationality of the composer, also decreases the number of runs a single work receives, but as expected renders insignificant once interacted FE are added.[21] Furthermore, works are more often performed in anniversary years.

We do several tests to check robustness of results and account for potential confounding factors. First, rather than studying effects on the level of the individual work, in table 3, we rerun models on the level of the individual composer and the number of runs she receives across all her works. Results are largely confirmed in models, i.e. the baseline OLS (1) and Poisson models (2) and (3). Second, table 4 confirms the basic intuition of our results for a subset of performances classified as new productions in the data, productions that do not build on the standard repertoire and (past) productions in opera houses. As argued above, new stage productions may play an important role when it comes to the diffusion of new works unknown to audiences and critics and their process of gaining of popularity over time. At this important 'point of entry' for new works into current programming, status effects seem slightly more pronounced and visible.

[21] This might be due to various factors including 'home bias' in consumption and demand preferences for domestic/native composers' works, or because works in many instances first diffuse domestically before they are shipped/exported to opera stages abroad. Even though interesting, this question is not the focus of our inquiry.

Moreover, secondary markets for opera productions and the trading of stage productions could affect results. Rental productions generate higher returns when they are successful, and, in a similar vein, co-productions of several opera houses share total production costs from early on [32]. In this way, when a production is available for rent and staged in more than one house, it might also affect the presence of underlying works in domestic programing. For example, some works might be more likely to enter rental productions and trade than others. In table 5, we thus include information on accumulated rental productions (stocks) available over time into models which approximates well the level of trade an individual work receives on secondary markets for productions. Next, we segregate status effects for works below and above median stocks of production rentals. Models (2) and (3) present Poisson estimates, next to the baseline OLS results in (1). Results indicate that status effects are more pronounced for works that have more rentals around them. Arguably, once productions are collaborative and several houses share total cost (savings) over time, the relative contribution of grand right licensing increases, in particular when this involves licensing and transacting rights in more than one jurisdiction.

In addition, estimates might not only reflect economic effects from grand right status but they might as well capture economic effects from other rights granted around opera works such as rights to reproduce works. For example, rental or purchasing conditions of music sheets under copyright from publishers might affect overall costs of production houses face and so their programing choices might change accordingly. In table 6, models exploit variation in the availability of individual works on Petrucci (yes/no) and we thus further segregate status effects for changing samples in baseline OLS (1) and Poisson regressions (2) and (3).[22] It becomes clear that negative and significant status effects

[22]These results continue to hold when we deploy tighter criteria on the copyright status of music sheets, i.e. we limit to publication titles/music sheets published before 1900 and their

for grand rights largely persist, whether or not the individual work is available on the Petrucci repository of public domain works. However, when opera houses have to continue to rent scores from publishers because access to some scores is artifically limited even after the work's copyright expires (i.e. only publisher hold exclusive copies of the scores), negative status effects should continue to apply in models. Our estimates seem to confirm this intuition. For scores of works not accessable online and where houses will have to afford score rentals, negative effects on programming are more pronounced and these works are even less often performed than other public domain works.

Finally, opera programing could be linked to (public) funding criteria. For example, criteria might require programs to stage a certain number of new works in each season or reflect gender/ethnic diversity. In order to address this bias, we again segregate status effects for changing samples, this time exploiting variation in public versus private funding models (or approximations of such models) across countries. We flag all performances hosted in the U.S. as a prime example of a system of operatic production mostly based on private funding/donations and market incentives alone. We compare its effects to those arising in systems where opera is primarly based on a model of public funding, i.e. we limit to performances hosted in all other, mostly European countries. This approach builds on previous research [33]. This suggest that public funding at large follows either the German or European or American model. In the former, up to 80 per cent of income, sometimes more, come from public funds. In the latter, 85 to 90 per cent are donations and box office income. Such a model allows to introduce and implement above funding criteria more broadly in the system.
As table 7 shows main results and claims continue to hold in this set-up. At large, effects are negative across OLS and Poisson models (1) and (2). However, funding criteria might play a moderating role in programming choices in EU countries as size and significance of the interaction term is substantially lower

respective works (results not shown, available upon request from the author).

there. As public funding is very uncommon in the U.S., funding criteria are less likely to bias status estimates. In turn, as many countries follow the EU rather than the market-driven U.S. model, which in principle allows for the introduction of funding criteria, our overall estimates might be slightly downward biased.

5.2. Longer-term status effects on reuse: Revival of opera versus new and incoming opera

In this section, we address longer-term effects of (historic) status in today's reuses on stage. We study the effects of copyright status on incoming work, i.e. we exploit a sample of Handel and Rossini revivals of opera as instances of market entry of *new* public domain works unknown to the public, competing with new, incoming works under copyright from the same year cohorts. We limit the observation period from 1916 to 1938. This is because the wave of revivals only launches in 1916, with a first revival of Rossini's L'occasione fa il ladro in Pesaro, Italy, more than 100 hundred years after its first premier, and because data from the Loewenstein catalogue only covers all premiering operas up to 1940 (including new works not performed any more). In table 8, column (1) presents model estimates for the OLS baseline; (2) and (3) give negative binominal model estimates for the total number of runs of a work *across* all six seasons; (4) and (5) give results for a logistic model with a binary DV rather than the count data, i.e. status effects at the extensive margin of the canon. The two main variables across specifications are (historic) copyright status and copyright terms at the date of revival/premier and the work's jurisdiction of performance.

All specifications include country of origin FE (except (5)) and premier year FE for cohorts of works first performed in the same year and a dummy variable for status-changing works in the current observation period (see models in the previous section). In addition, we include a control for the age of the work at its revival based on the time elapsed since the initial premier of the work, while all

other works premiering for the first time are set to zero. In models (1), (3), (4) and (5) we also insert performance country-level FE. And, models (3), (4) and (5) include binary controls for foreign status of a work and country of origin FE (4 only). Adding these substantially reduces sample size because information on composer nationality is only available in operabase. Accordingly, composers from Loewenstein whose entire repertoire of works is never performed on stages in the six-season observation period are excluded from the sample in (3), (4) and (5).

We find that negative and significant (historic) status effects at the beginning of the term persist across any specification. If selection into revivals does not bias estimates (see the discussion in the strategy section), copyright status taxes the diffusion of works from early on, and, effects from historic status on today's reuse persist in the course of several decades, if not a century, after works first enter stages. In contrast, differences in copyright terms across jurisdictions (which range from life of the author plus 15 to plus 80 years, with a median and Berne minima of plus 50 years) do not seem to generate similar longer-term effects but indicate smaller effects, if any. Controls for foreign works status show the expected negative sign; the dummy for status-changing works in the observation period yields a positive effect on the number of performances. More than the effect of copyright-status change, the latter captures the higher average popularity of works still present on stages today compared to those works not performed any more. The older the work is at its revival, the fewer peformances it receives on stages. However, this age effect is relatively weak and not consistent across specifications.

6. Discussion and limitations of approaches

This research is not without limitations and several questions arise for future research in this area. First, while the evidence we provide can indicate how far the exclusivity granted by copyright restricts follow-on reuse, it does

not allow for an assessment of welfare effects. Put differently, results are not informative on whether or not changes in copyright and reuse levels constitute a welfare improvement and thus are limited in their ability to address the standard underproduction-underutilization trade-off [24]. It would require richer data on pricing and total revenues with regard to stage reuses as well as information on to what extent production of new works builds and borrows from existing (public domain) opera to allow for normative conclusions [34].

Second, even though meaningful, quantitative approximations we deploy in the analysis are often imperfect measure of the underlying phenomena. For example, in the analysis, copyright status effects around the publishing of musical scores builds on the availability of works on Petrucci. However, similar to the approaches by Reimers [30] and Li et al [35], an alternative assessment would require monitoring commercial strategies of publishers in greater detail, i.e. the exact timing in making available, changes in pricing and (re-)editioning of works around the expiry of copyright. Furthermore, in an alternative setting and with additional data, we could monitor and analyse the more immediate effect from funding and licensing expenditure levels in opera houses on their programing choices rather than limiting the analysis to legal status effects. This is also interesting because it would allow to account for differences in the ability of opera management when it comes to bargaining licensing and funding deals.

Third, more research in economic history needs to be conducted in the area of opera and copyright which may provide with lessons on the functioning of copyright and with new insights for today's policy reform. In our research, we have only began to fully understand the effects of emergence of national and international copyright regimes and the implications this holds for the diffusion and emerging trade of works created in these periods as well as the value that can be extracted from the harmonization of international laws. In addition, as illustrated in previous work [4] it is possible that establishing copyright also had an impact on artist migration and location choices, yet another interesting

question to be addressed in future research.

Finally, one way to interpret our results is to understand copyright - while incentivizing the creativity of composers - also as a hindrance to follow-on creativity in reuse on stage. In this way, granting neigboring rights to performers or mechanical rights as it is common pratice in many legal frameworks might help reduce potential adverse effects and reintroduce incentives further downstream. However, granting more rights runs the risk of 'royality stacking' and fragmentation of rights with possible adverse effects on the staging of works, for example, hold up problems [36]. Again, that is a question for future research to better understand complementarities or substitution of effects in these bundles of rights granted across the value chain.

7. Conclusion and implications for copyright

We find that works under copyright today are less often performed on global opera stages than works that are out of copyright. Based on within-title variation, copyright status reduces the average number of performances a work receives by around 10 to 15 per cent. Arguably, this is due to costs opera houses incur for licensing rights to performances (grand rights) for original works from composers or their heirs. So, while moderate copyright terms may induce the creation of additional opera when the composer is still alive [4], it also restricts reuse and follow-on creativity on stage.

Main results are robust against a number of confounding factors such as the economic effects from publishing activity around music sheets (as another source of potential production costs for opera houses) and the effects from secondary markets for opera productions. In addition, copyright status can act as a barrier to entry of less known works, in particular when their reuse on stage (as experience goods) is restricted in new productions that are outside the standard production repertoires of houses. Still, there is a moderating effect of public

funding (criteria) on programing that seems to alleviate some of the chilling effect of copyright.

Moreover, in the case of opera, there is preliminary evidence that (historical) copyright status has longer term implications on the diffusion levels and establishment of new, incoming works. These effects continue to be visible in the canon as it is today, several decades after premieres of works.

From a dynamic persective, future revisions of copyright need to account for the incentives to create (new works) as well as the effects on (creative) reuse they impose on these works throughout their total lifecycle. This might help improve welfare and the efficiency of the instrument. In cases where there are high transaction costs, limit capacity for uses and taste for variety is a policy concern, we thus petition for a copyright framework (and, arguably, complementary cultural policies) that gives enough leeway to new, incoming works and finds ways to establish a level-playing field with the body of incumbent works.

References

[1] P. J. Heald, The public domain, in: Handbook on the Economics of Copyright, Edward Elgar Publishing, 2014, Ch. 5, pp. 93–104.

[2] K. Garcia, J. McCrary, A reconsideration of copyright's term, Alabama Law Review, Forthcoming; U of Colorado Law Legal Studies Research Paper (19-11).

[3] F. R. Velde, Economic history of opera.

[4] M. Giorcelli, P. Moser, Copyright and creativity: Evidence from italian operas, Journal of Political Economy.

[5] M. MacGarvie, J. Watson, J. McKeon, It was fifty years ago today: Recording copyright term and the supply of music, NBER conference on the Economics of Digitization.

[6] A. Nagaraj, Does copyright affect reuse? evidence from google books and wikipedia, Management Science 64 (7) (2018) 3091–3107.

[7] R. Towse, Opera and ballet, in: Handbook of Cultural Economics, Edward Elgar Publishing, 2011, Ch. 43, p. 456.

[8] J. Heilbrun, Empirical evidence of a decline in repertory diversity among american opera companies 1991/92 to 1997/98, Journal of Cultural Economics 25 (1) (2001) 63–72.

[9] J. L. Pierce, Programmatic risk-taking by american opera companies, Journal of Cultural Economics 24 (1) (2000) 45–63.

[10] R. Martorella, The structure of the market and musical style: The economics of opera production and repertoire: An exploration, International Review of the Aesthetics and Sociology of Music 6 (2) (1975) 241–254.

[11] J. Blau, A. Foster, Art and society : readings in the sociology of the arts, Albany : State University of New York Press, 1989.

[12] K. Jan Borowiecki, Historical origins of cultural supply in Italy, Oxford Economic Papers 67 (3) (2015) 781–805. doi:10.1093/oep/gpv029.

[13] S. Krebs, W. Pommerehne, Politico-economic interactions of german public performing arts institutions, Journal of Cultural Economics 19 (1) (1995) 17–32.

[14] S. Rosen, The economics of superstars, The American Economic Review 71 (5) (1981) 845–858.

[15] Opera Europa, Spring conference 2019: Creation, antwerp, 25-28 april.

[16] S. Albinsson, New bums on opera seats? the transition from feudalism to liberal society mirrored in european opera houses 17501824, 2018.

[17] W. J. Baumol, W. G. Bowen, Performing arts: the economic dilemma; a study of problems common to theater, opera, music, and dance, Twentieth Century Fund, New York, 1966.

[18] M. Caserta, T. Cuccia, The supply of arts labour: Towards a dynamic approach, Journal of Cultural Economics 25 (3) (2001) 185–201.

[19] B. A. of Songwriters Composers, Authors, A practical guide to collecting grand rights.
URL https://bit.ly/2CmygQi

[20] S. Albinsson, The advent of performing rights in europe, Music and Politics 6. doi:10.3998/mp.9460447.0006.204.

[21] F. M. Scberer, Quarter Notes and Bank Notes: The Economics of Music Composition in the Eighteenth and Nineteenth Centuries, Princeton University Press, 2004.

[22] S. Scotchmer, The Political Economy of Intellectual Property Treaties, The Journal of Law, Economics, and Organization 20 (2) (2004) 415–437.

[23] C. Fuhrmann, Foreign Opera at the London Playhouses: From Mozart to Bellini, Cambridge Studies in Opera, Cambridge University Press, 2015. doi:10.1017/CBO9781139135511.

[24] I. E. Novos, M. Waldman, The effects of increased copyright protection: An analytic approach, Journal of Political Economy 92 (2) (1984) 236–46.

[25] A. Loewenberg, Annals of Opera, 1597-1940: Comp. from the Orig. Sources, Calder, 1978.

[26] G. Kreuzer, Verdi and the Germans: From Unification to the Third Reich, New Perspectives in Music History and Criticism, Cambridge University Press, 2010.
URL https://books.google.ch/books?id=BCCtVz4Go3gC

[27] H. L. Pinner, World copyright: An encyclopedia, Leyden: A.W. Sijthoff, 1953.

[28] S. Ricketson, J. Ginsburg, International copyright and neighbouring rights: The Berne Convention and beyond, Oxford: Oxford University Press, 2010.

[29] S. Gompel, Formalities in copyright law: An analysis of their history, rationales and possible future, Alphen aan den Rijn: Kluwer Law International, 2011.

[30] I. Reimers, Copyright and generic entry in book publishing, American Economic Journal, forthcoming.

[31] R. Spoo, The uncoordinated public domain, Cardozo Arts and Entertainment Law Journal 35 (2016) 107.

[32] Prospero, Opera co-productions: It's good to share (2015).
URL https://www.economist.com/prospero/2015/02/11/its-good-to-share

[33] P. Agid, J. Tarondeau, The management of opera: An international comparative study, Springer, 2010.

[34] W. Landes, R. Posner, An economic analysis of copyright law, The Journal of Legal Studies 18 (2) (1989) 325–63.
URL https://EconPapers.repec.org/RePEc:ucp:jlstud:v:18:y:1989:i:2:p:325-63

[35] X. Li, M. MacGarvie, P. Moser, Dead poets' propertyhow does copyright influence price?, The RAND Journal of Economics 49 (1) (2018) 181–205.

[36] M. Lemley, C. Shapiro, Patent holdup and royalty stacking, Texas Law Review 85.

8. Annex

Figure 1: Premier dates (years) of (newly created) opera from Loewenstein[25]

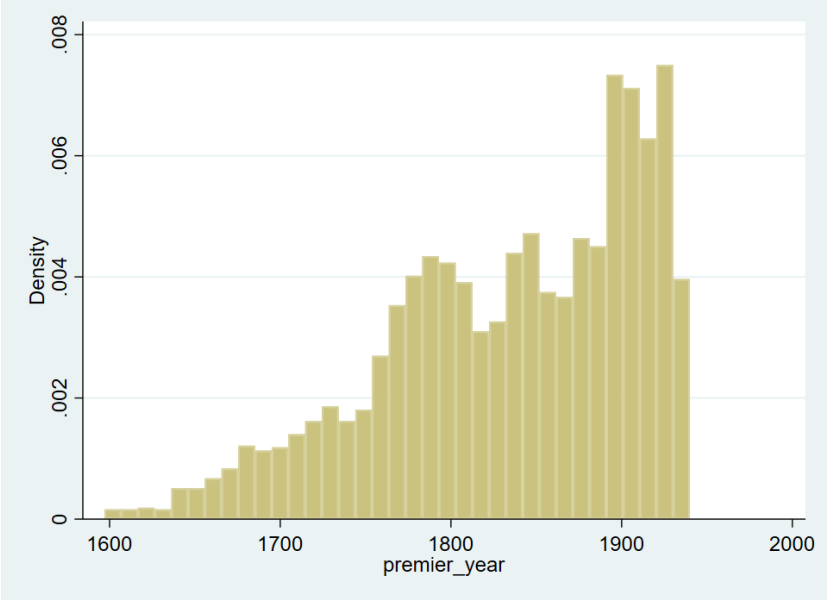


Figure 2: Births of composers recorded until 1940, data from Operabase.com

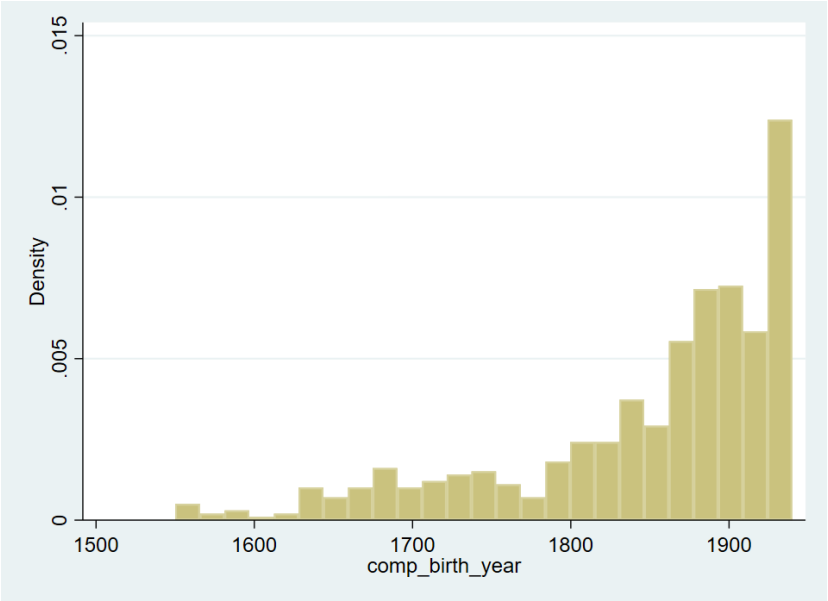


Figure 3: Average opera performances per season and by composer birth year and selected country of performance

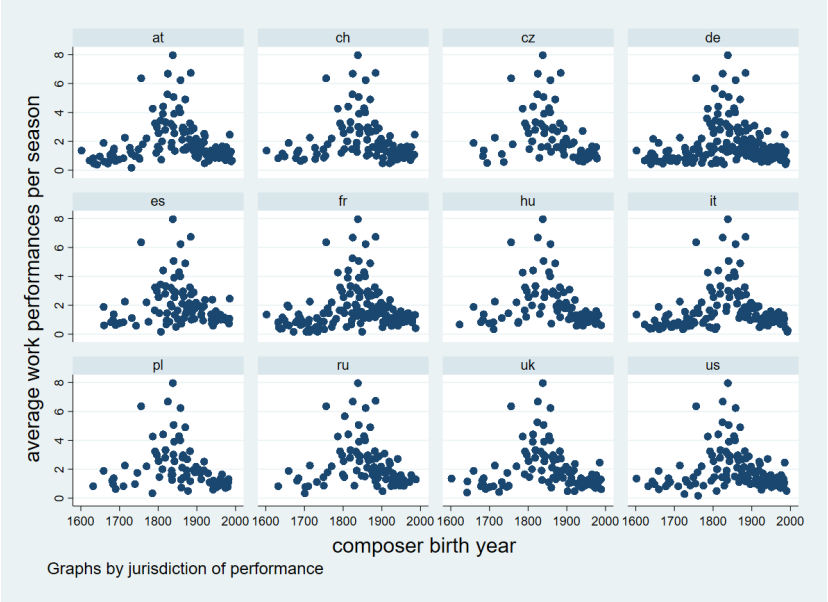


Figure 4: Average opera performances around copyright status change and by selected country of performance, changing sample

Table 2: Summary statistics, copyright (non-)changing status sample

Variable	Description	Obs.	Mean	Std. Dev.	Min	Max
status changing sample						
dependent variables						
total performances of a work	performances per season and country	5,118	2.4525	6.2059	0	89
explanatory variables						
copyright status	work under copyright=1, 0 elsewise	5,118	.7829	.4123	0	1
composer birth	year	5,118	1884.113	8.5476	1858	1913
composer death	year	5,118	1953.904	11.7155	1935	1976
foreign work	country of performance $\neq$ origin of composer=1, 0 elsewise	5,118	.8675	.3390	0	1
anniversary	[performance year = composer birth + (50*n)]=1, n=(1,10), 0 elsewise	5,118	.0748	.2631	0	1
non-changing sample						
dependent variables						
total performances of a work	performances per season and country	45,288	2.8413	9.2994	0	285
explanatory variables						
copyright status	work under copyright=1, 0 elsewise	45,288	.3136	.4640	0	1
composer birth	year	45,288	1833.808	103.1904	1550	1993
composer death	year	35,880	1869.926	82.2222	1602	2014
foreign work	country of performance $\neq$ origin of composer=1, 0 elsewise	45,288	.7665	.4230	0	1
anniversary	[performance year = composer birth + (50*n)]=1, n=(1,10), 0 elsewise	45,288	.0301	.1707	0	1

Table 3: FE OLS and Poisson regression table

DV:	(1)	(2)	(3)
total performances of an individual composer	ln		
copyright status x changing sample	-0.1346*	0.01859	-0.1037**
	(-2.40)	(0.56)	(-2.70)
foreign work	-0.3687	-1.0837***	-2.5338
	(-0.82)	(-121.55)	(-1.88)
anniversary	0.1492***	0.1417***	0.1417***
	(3.53)	(9.60)	(9.77)
age/birth cohort			0.0073***
			(11.35)
year FE	yes	yes	yes
country performance FE		yes	
country performance-origin FE	yes		yes
work FE	yes	yes	
Observations	24438	24438	24438
AIC	63185.0	155312.8	153218.3
BIC	68485.0	155977.3	159523.1

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: FE OLS and Poisson regression table

DV:	(1)	(2)	(3)
total new productions of an individual work	ln		
copyright status x changing sample	-0.05758	-0.2637***	-0.1523*
	(-0.69)	(-4.18)	(-2.50)
foreign work	-0.3803	-0.4721***	-2.6065*
	(-0.77)	(-27.71)	(-2.45)
anniversary	0.1589***	0.3027***	0.3116***
	(4.23)	(12.47)	(12.85)
age/birth cohort			0.0005
			(1.67)
year FE	yes	yes	yes
country performance FE		yes	
country performance-origin FE	yes		yes
work FE	yes	yes	
Observations	20382	20382	20382
AIC	52819.5	118449.3	127026.3
BIC	55695.4	118988.0	130567.7

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: FE OLS and Poisson regression table

DV:	(1)	(2)	(3)
total performances of an individual work	ln		
copyright status x changing sample	-0.06554	-0.1952***	-0.1371***
above median rentals	(-1.30)	(-4.63)	(-3.41)
copyright status x changing sample	-0.1064	-0.08266	-0.0099
below median rentals	(-1.72)	(-1.67)	(-0.16)
foreign work	-0.3554***	-0.8393***	-2.2435
	(-21.26)	(3.37)	(-1.87)
anniversary	0.1120***	0.1425***	0.1477***
	(4.76)	(9.66)	(10.02)
age/birth cohort			0.0011***
			(3.99)
year FE	yes	yes	yes
country performance FE	yes	yes	
country performance-origin FE			yes
work FE	yes	yes	
Observations	50406	50406	50406
AIC	124699.6	263659.5	277301.6
BIC	125441.2	264392.2	284178.5

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: FE OLS and Poisson regression table

DV:	(1)	(2)	(3)
total performances of an individual work	ln		
copyright status x changing sample	-1.1367**	-0.1397***	-0.09445*
available in Petrucci	(-2.73)	(-3.93)	(-2.38)
copyright status x changing sample	-1.0439	-0.3338*	-0.1488
not available in Petrucci	(-0.92)	(-2.18)	(-1.74)
foreign work	-3.1389***	-0.8392***	-2.2380
	(-20.02)	(-89.65)	(-1.86)
anniversary	0.5620*	0.1422***	0.1476***
	(2.54)	(9.64)	(10.01)
age/birth cohort			0.0011***
			(3.91)
year FE	yes	yes	yes
country performance FE	yes	yes	
country performance-origin FE			yes
work FE	yes	yes	
Observations	50406	50406	50406
AIC	350381.7	263661.6	277305.1
BIC	351123.2	264394.3	284182.0

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: FE OLS and Poisson regression table

DV:	(1)	(2)
total performances of an individual work	ln	
copyright status x changing sample	-0.2077*	-0.2805***
U.S. performances	(-2.34)	(-4.46)
copyright status x changing sample	-0.06301	-0.07098
EU performances	(-0.93)	(-1.62)
foreign work	-0.3578***	-0.7376***
	(-19.20)	(-71.60)
anniversary	0.09254**	0.1230***
	(3.17)	(7.41)
year FE	yes	yes
country performance FE	yes	yes
work FE	yes	yes
Observations	35946	36486
AIC	89532.0	191825.6
BIC	89846.1	192131.2

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8: OLS, negative binominal and logistic regressions, revivals of works and premier of works staged in the period 1916-38

DV:	(1)	(2)	(3)	(4)	(5)
total performances of an individual work	ln			1/0	1/0
copyright status, at revival/premier	-0.1080***	-5.224***	-4.528***	-3.066***	-5.082***
	(-9.49)	(-2.34)	(-2.77)	(-3.46)	(-7.48)
term length, at revival/premier	-0.0015***	-0.0645***	-0.0715***	-0.0814***	-0.0855***
	(-15.80)	(-4.15)	(-5.91)	(-10.63)	(-12.39)
copyright status x chang. sample, today	0.0286***	3.597***	3.788***	2.709***	2.457***
	(14.54)	(10.19)	(12.78)	(15.38)	(17.34)
age at revival	-0.0003***	-0.0088	-0.0029	0.0027	-0.0114***
	(-5.33)	(-0.69)	(-0.31)	(0.49)	(-3.15)
foreign work			-3.311***	-1.175***	-1.113***
			(-6.43)	(-6.05)	(-5.98)
cohort/premier year FE	yes	yes	yes	yes	yes
country performance FE	yes		yes	yes	yes
country origin FE	yes	yes	yes	yes	
Observations	131839	125714	38475	27218	27218
*Adj.R*2	0.06	0.07	0.07	0.36	0.35

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$