HARVARD Kennedy School
JOHN F. KENNEDY SCHOOL OF GOVERNMENT

Faculty Research Working Papers Series

The Emergence of Musical Copyright in Europe From 1709 to 1850

F. M. Scherer
John F. Kennedy School of Government - Harvard University

October 2008
RWP08-052

The views expressed in the HKS Faculty Research Working Paper Series are those of the author(s) and do not necessarily reflect those of the John F. Kennedy School of Government or of Harvard University. Faculty Research Working Papers have not undergone formal review and approval. Such papers are included in this series to elicit feedback and to encourage debate on important public policy challenges. Copyright belongs to the author(s). Papers may be downloaded for personal use only.

THE EMERGENCE OF MUSICAL COPYRIGHT IN EUROPE FROM 1709 TO 1850

F. M. Scherer
June 2008

Abstract

This paper, written for a conference of the Society for Economic Research on Copyright Issues, explores the history of copyright protection for musical compositions. The first modern copyright law did not cover musical works. The role of Johann Christian Bach, Ludwig van Beethoven, and Johann Neopmuk Hummel in securing legal changes is traced. How Giuseppe Verdi exploited the new copyright law in Northern Italy is analyzed. The paper argues that Verdi, enriched by copyright protection, reduced his compositional effort along a backward-bending supply curve. However, his good fortune may have had a demonstration effect inducing other talented individuals to become composers. An attempt to determine the impact of legal changes on entry into composing is inconclusive. The paper shows, however, that a golden age of musical composition nevertheless occurred in nations that lacked copyright protection for musical works.

THE EMERGENCE OF MUSICAL COPYRIGHT IN EUROPE FROM 1709 TO 1850

F. M. Scherer
Harvard University
June 10, 2008

1. Introduction

It is a pleasure to be with you in Geneva, where the magical phrase, "intellectual property," first came into widespread usage during the 1970s. Prior to that time, it was hardly ever heard.[1] My presence here at a conference on copyright cannot be explained by prior work on the many controversial issues of modern copyright, on which I have published virtually nothing. But the emergence of copyright was an important event for classical music composition during the 18th and 19th centuries, on which I have written a book, whose longest chapter focused on the economics of music publishing.[2] And as the pioneering articles by Sir Arnold Plant suggest,[3] there areappreciable parallels between the economics of patents, on which I have written extensively over the past 50 years, and the economics of copyright.

2. The Rise of Free-Lance Music Composition

Several centuries ago, most composers of "serious" music were employed either by the various churches or by noble courts. My work on the subject was inspired by Wolfgang Hildesheimer's suggestion that Wolfgang Amadeus Mozart was the first important composer writing for the market as a free-lance agent, and because markets for music were insufficiently developed at the time, Mozart died in debt toward the end of 1791. My research showed

---

1 . For an investigation of the term's origins, see F. M. Scherer, "The Political Economy of Patent Policy Reform in the United States," forthcoming in the Journal on Telecommunications and High Technology Law (2008).

2 . F. M. Scherer, Quarter Notes and Bank Notes: The Economics of Music Composition in the 18th and 19th Centuries (Princeton University Press: 2004).

3 . Arnold Plant, "The Economic Theory Concerning Patents for Inventions," Economica, NS, February 1934, pp. 30-51; and "The Economic Aspects of Copyright in Books," Economica, NS, May 1934, pp. 167-195.

Hildesheimer's hypothesis to be seriously in error. Free-lance music composition existed a century before the Mozart era. What is true, however, is that there was considerable growth of free-lance compositional activity at the expense of employment with the nobility and churches over the course of the 18th and 19th centuries.

One part of my methodology in pinning down this historical nexus was to compile a systematic data base on 646 composers born between 1650 and 1849. The initial sampling criterion was survival of a composer's musical legacy in the form of records and CDs, identified through listings in the Fall 1996 issue of the Schwann Opus reference guide.[4] A total of 742 composers were found in this way. From the initial sample, 76 individuals had to be dropped because insufficient biographical information was available from standard sources, most notably, the 1980 edition of the New Grove Dictionary of Music and Musicians. For the survivors, extensive information was compiled on birth and death dates, places and modes of employment, family background and education, and output (measured by centimeters of record listings in the Schwann Opus catalogue).

As with virtually all measures of individuals' creative output and its success in the marketplace of ideas,[5] the distribution of recorded music reference lengths in the Schwann guide for my sample of 646 was highly skew -- most likely log normal. Figure 1 shows the distribution of reference lengths (in centimeters) over time and reference length space. Mozart, Beethoven, and J. S. Bach tower over all the rest, followed by the usual suspects. Most composers made little imprint on musical posterity. The top ten composers accounted for 49.4 percent of total Schwann sample linear coverage.

Figure 2 characterizes the basic historical trends with respect to free-lance activity. It is divided into two main categories -- composition for the free market, and market-oriented performance -- activities that are often complementary even in today's quite different musical scene. Contrary to

---

4 . Needless to say, there is no evidence that any composer in our sample derived significant income from the sale of electrical or electronic recordings of his music.

5 . On invention patent values, capital gains from high-technology venture investments, popular record sales, and the like, see F. M. Scherer, "The Innovation Lottery," in Rochelle Dreyfuss et al., Exploring the Boundaries of Intellectual Property (Oxford University Press: 2001), pp. 3-22.

Hildesheimer's suggestion, there was substantial free-lance composing activity even for persons born in the second half of the 17th century. The main money spinner for such individuals was the writing of operas. A few opera houses during that period, as in Mantua, Vienna, and Paris, were appendages of the local feudal government hierarchy. But most followed a different pattern, in which diverse wealthy citizens formed a committee, contributed funds for the construction of a local opera house, and hired an impresario to manage things. Even in the royal opera houses, management was more often than not delegated to an impresario. And under both systems, it was common for the impresario to contract essentially at arms length with composers for one opera at a time, paying an honorarium for the effort and the composer's presence as conductor at initial performances. To be sure, some composers received more or less continuing retainers from the local nobility for their presence, but even then, a lump-sum composition fee was normally paid.

That composers engaged in "significant free-lance activity," as portrayed in Figure 2, does not exclude the possibility of simultaneous or sequential church employment or noble patronage. Many composers were double-, or more accurately, multiple-dippers, engaging in free-lance activity even while employed by the church or the nobility. George Frideric Handel enjoyed a generous annual stipend from the Kings of England even while acting over an extended period as entrepreneur and impresario for his own opera and oratorio performances. Johann Sebastian Bach moonlighted with performances of his own works at Zimmermann's coffee house in Leipzig while he was formally employed by the local government to teach in the Thomas School and be music director in various Leipzig churches. Figure 3 abstracts from double-dipping by showing the progression of free-lance activity by composers who had minimal church or court employment. The vertical scale shows the number of composers whose primary source of bread was free-lance activity; the numbers above the bars are percentages of the relevant minimal-court and minimal-church cohort with at least some significant dependence upon free-lance composition.

Both Figures 2 and 3 reveal a substantial upward trend in the number and fraction of composers in 50-year cohorts with significant free-lance compositional activity. For all composers born during the first half of the 19th century, 62 percent engaged in a significant amount of free-lance activity. Among those without alternative church or court employment, the fraction was 69 percent and the absolute number 78 (from a cohort total of 189 composers born between 1800 and 1849).

As Figure 2 suggests, many composers helped keep body and soul together by performing as free-lance artists alongside and often (e.g. Franz Liszt and Niccolo Paganini) in tandem with their compositional activity. Opportunities for such free-lance performance multiplied over time as concert venues were organized in the larger towns and cities and as composers financed and promoted their own free-lance performances. Many other income-earning modes existed. During all four of the half centuries studied, a fairly steady 30 percent of the composers added significantly to their incomes through private teaching. Carl Czerny and Frederic Chopin were particularly successful examples. Especially during the 19th century, there was a rapid spread of formal conservatories for the teaching of music, and many of our sample composers secured employment as members of the teaching faculty. There was also a proliferation of private orchestras, employing sample composers as directors and (less frequently) regular instrumentalists as well as guest soloists. In each 50-year interval, from 5 to 10 percent of the relevant cohort had some non-music occupation as a principal source of income. These ranged from being a wine merchant (e.g. Giovanni Viotti) to serving as king (e.g. Frederick the Great of Prussia).

3. Dissemination and Publication

Needless to say, the inventions of mechanical recording, electrical recording, radio, and television occurred far too late to be of benefit to composers in my 1750-1849 birth cohorts. To the extent that property rights existed, they affected four main types of diffusion: securing appropriate creative credit for musical works; performance of individual voice or instrumental compositions; performance of major works such as operas and symphonies; and the publication of printed musical works.

Claiming credit for music composed by someone else did happen, but it was frowned upon by accepted custom and, at least for the kinds of compositions created by sample members, it appears to have been fairly rare. When a madrigal claimed to be original by Giovanni Bononcini in 1729 was learned by Londoners to have actually have been composed by Antonio Lotti, Bononcini was in effect ostracized by Londoners and enjoyed little professional success thereafter.

Much more common was the uncompensated performance of a work composed by others. Until performance rights became an accepted feature of

copyright, there was little composers could do about this. Beethoven is said to have combatted such imitation by his "deadly enemies" in Vienna by making his piano sonatas so difficult that few if any could play them as well as the master.[6]

Performance rights for major works and especially operas were more complex. Before copyright was authorized and performance rights were added (often as an afterthought), the convention in Europe was for the impresario to pay a composer a flat fee for his opera, after which the original score became the property of the impresario, who in turn (at least until the time of Rossini) often conveyed it to the scribblers who made copies for individual musicians employed by the opera. After the composition honorarium was paid, the impresario had full rights to stage repeat performances without further compensation to the composer. Paris was an exception in this respect. Even before a copyright law existed, there was a long-standing tradition that opera composers received fees for subsequent performances. By a 1776 decree, this compensation scheme held for the first 40 performances, declining from 200 livres for the first 20 performances to 100 for iterations 31-40. Because of this provision, Paris was a special magnet to would-be opera composers.

Before effective copyright existed, opera houses outside France and not affiliated with the original sponsoring impresario could stage their own knock-off performances without paying either the original sponsor or the composer. The mode through which this diffusion process operated turned on the hired copyist's right to the original score he had copied. He would make additional copies and sell them to other opera houses, of which, at least in Italy, there were hundreds. As Wolfgang Mozart's father wrote from Milano in 1770 before the premiere of Mitridate:[7]

> The copyist is full of joy, which in Italy is a very good omen, since, when the music pleases, the copyist can sometimes make more money sending out and selling the arias than the composer received for his composition.

---

6 . Quarter Notes and Bank Notes, pp. 170-171. Unless otherwise indicated, such factual references are drawn from that volume.

7 . Ibid. p. 168.

During the 18th century a thriving industry emerged to publish musical scores other than those used in church ceremonies, for which publishing had earlier antecedents. The standard mode during much of the two centuries covered by my composer sample was for the composer to negotiate publication with a publisher, who paid a lump-sum honorarium in advance for the opportunity. But piracy was rampant in the absence of intellectual property rights. There were two main modes. First, publishers such as John Walsh in London and the Probst firm in Leipzig would obtain works published elsewhere and put out their own editions, needless to say, without paying compensation. But even more importantly, composers often had to hire copyists to prepare performance versions of their works or manuscripts for submission to would-be publishers. The copyists would make additional copies, selling them both to individual music lovers and to pirate publishers. The latter often came out with their own printed editions even before the composer's chosen publisher could reach the market, thereby seizing a first-mover advantage.

Composers to be sure were aware of these threats, which limited the market for their officially published work and hence constrained the size of honoraria publishers were able to offer. They combatted them in a variety of ways. First, they offered their manuscripts primarily to publishers who had maintained a reputation for not pirating works submitted for consideration. Second and alternatively, they pursued "If you can't beat 'em, join 'em" strategies. For example, to avert John Walsh's chronic piracy of his works, George Frideric Handel made Walsh his official publisher and sustained a continuing relationship. Third, they divided manuscripts between two or more copyists, hoping that the copyists did not collude and patch together a saleable version. Fourth, they had copyists work in their own residence quarters, keeping a watchful eye on them to ensure that they did not spirit away an additional copy. Having to maintain space in which copyists could work was one reason why Mozart's housing expenditures were so lavish during significant portions of his Vienna tenure. And fifth, they sometimes implemented more drastic remedies, as when Beethoven complained to the Artaria house of Vienna that a pirated version of his op. 29 Sextet contained many errors, asked the owner to turn over the 50 pirated copies for correction, and then slashed giant "X's" across the pirated copy pages.

During the golden age of classical music composition, markets for the more sophisticated published works were small. As a result, competition between hand-written copies and published works was closer than one might

suppose. Figure 4 shows a comparison between the average total cost of printing music by the method of engraving, derived from detailed circa-1800 calculations by Leipzig publisher Gottfried Haertel, and two estimates of the cost of producing comparable pages by hand-copying. Because of substantial engraving and press setup costs, the average cost per unit with mechanical printing falls with volume. Similar volume economies are absent with hand-copying. The cost breakeven between the two alternative processes lies somewhere between 22 and 38 copies printed by mechanical methods -- a volume that might not be reached with less popular works. And usually, because preparing engraved plates was time-consuming, hand copyists could often reach their target markets more quickly, securing a first mover advantage.

4. The Emergence of Copyright

Both composers and publishers were acutely aware of the threat pirated versions posed to their economic prospects -- publishers because fragmentation of the market led to lower sales, a sacrifice of scale economies, and the possible loss of first-mover advantages; composers because reduced prospective profitability for their designated publishers meant lower front-end honoraria. Both sought protection of their "property." (The phrase "intellectual property" was not yet used.) From the historical sources, it is difficult to say whose desire was keener.

Actually, protection was sometimes available in the form of "privileges" long before formal copyright laws were passed. A composer or publisher might seek from a feudal leader -- the King in England or France, a local duke or other sovereign in remnants of the Holy Roman Empire -- a privilege granting the exclusive right to a specified musical work or, in some instances, a whole array of musical works. Indeed, in France, a single publishing house, LeRoy & Ballard, had the exclusive right to publish <u>all</u> music from 1551 to 1713 and a partial right (shared with engravers) from 1713 to 1790.

It is hard to know how effective the privilege system was in protecting composers' and publishers' musical works from piracy. There were three main limitations. First, then as now, enforcement through established legal systems was costly and difficult. Even in England, with centralized privilege-granting authority, the record contains numerous examples of piracy despite the existence of exclusive privileges. Second, one needed access to one's sovereign or at least his court to obtain a privilege. Plainly, access was not

always easy, and one supposes, although no published examples are known, that bribes had to be paid to the appropriate minor court officials. Despite the plausibility of substantial transaction cost barriers, the leading historian of the musical privilege system, Hansjörg Pohlmann, argues that privileges were widely available -- so widely, indeed, that one might reasonably view feudal privileges as the prototype of modern musical copyright.[8] Third, in much of central Europe, and especially in Germany, the domain of local feudal lords with the power to issue and enforce privileges was so fragmented that anti-piracy sanctions were hopelessly weak against pirates whose home base was only a few tens of kilometers away. A privilege issued, say, in Mainz would have little or no power to prevent piracy in Berlin or Munich or Stuttgart, let alone Geneva or Paris.

The first modern copyright law was the Law of Anne, enacted in the United Kingdom in 1709. At first, it was assumed that the law did not cover printed music, and privileges continued to be granted. Prime mover in the effort to extend copyright to music was Johann Christian Bach, the so-called "London Bach," whose works covered by privilege were pirated by London publisher James Longman. At the time Bach's economic fortune was substantial, and it has been argued that only Bach had the financial resources needed to mount a legal challenge enforcing his privilege and creating a presumption of copyright under the Law of Anne. The case was filed in 1773 and decided in Bach's favor, setting a precedent under which musical compositions were covered by the Law of Anne, in 1777.[9] But the victory appears to have provided little benefit to Bach, whose concert series lost attendance and who died destitute in 1782. Others did benefit; registrations of musical works for copyright soared to 1,828 in the 1790s, and in 1842 English law was extended to include musical performance as well as publication rights.

The privilege system was replaced in 1793 by a copyright law, with performance rights, following the French revolution. The United States passed a copyright law in 1790 and added performance rights in 1870.

---

8 . Hansjörg Pohlmann, Die Fruehgeschichte des musikalischen Urheberrechts (Kassel: Baerenreiter, 1962), pp. 186 ff.

9 . Bach v. Longman et al., 2 Cowper 623 (1777).

More interesting developments occurred in Germany, Austria, Czechoslovakia, and northern Italy -- arguably, the musical heart of Europe. Publishers in the German-speaking lands sought a substitute for the ineffective privilege system. An "honorary" agreement among German booksellers in 1819 not to pirate authors' and publishers' works appears to have been ineffective. In 1829 German and Austrian music publishers entered a new anti-piracy agreement (in effect, a copyright cartel) and set up a central registry to communicate who had exclusive rights to which works. There is reason to believe it was more successful, but a more important initiative emerged.

In 1825 a group of leading German and Austrian composers, led by Johann Nepomuk Hummel and joined by Hummel's friend Beethoven, submitted a manifesto to the German Bundesversammlung asking the group to use its authority -- mainly the power of persuasion -- to have the member states rise above their disunity and enact an effective all-German copyright law. The manifesto, accompanied by a cover letter from Hummel and later from Beethoven, asserted that too many German music publishers were "getting fat by robbing without penalty their neighbors' property."[10] This piracy was said to lessen composers' and publishers' income, injured reputations through the issuance of badly proof-read editions, discouraged young people from becoming musicians, and worsened Germany's balance of trade with respect to nations such as France and England with effective copyright law. The Bundesversammlung created standing committees to study the problem. Some states already had copyright laws, but by 1837 the Bundesversammlung enacted minimum copyright guidelines for the recalcitrant states. Since Austria at the time controlled substantial portions of northern Italy, and as independent segments of northern Italy consolidated, an effective copyright law was finally in place during the early 1840s.

5. Taking Advantage of Copyright

The first to benefit in an important way from the Austrian Empire's new musical copyright law was Giuseppe Verdi; earlier opera composers such as Rossini, Bellini, and Donizetti died or retired from the arena too early to reap significant fruits. Verdi's publisher and de facto business manager, Giovanni

---

10 . It is reproduced in Karl Benyovszky, J. N. Hummel: Der Mensch und Kuenstler (Bratislava: Eos, 1934), pp. 131-133, with cover letters on pp. 299 and 306.

Ricordi (whose publishing firm endures to the present), was an economic genius. He saw the possibilities of copyright and exploited them to the full. Deploying a staff of rights managers and attorneys, he put an end to the widespread use of scores procured from copyists to mount Verdi operas in the many provincial opera houses of Italy. Instead, the local opera impresarios were required to use official Ricordi scores and pay performance fees. After a brief flirtation with uniform performance fees and considerable resistance, Ricordi introduced second-degree price discrimination, charging the smaller houses lower fees than the houses in larger cities. Ricordi also expanded greatly a strategy used on a smaller scale by opera composers in the pre-copyright era. He had Verdi's assistants prepare "reductions" of the individual arias and overtures from each opera for voice with piano, solo piano, four-hands piano, voice with violin, small ensembles, flute, and much else. For the score of an opera as a whole, the demand was limited to a few dozen theatres. But for individual pieces, the market among music-loving, instrument-playing, singing-in-the-parlour Italians numbered in the thousands. The revenues from these new enterprises soared, and both Ricordi and Verdi became very rich as a consequence.

Verdi's abundant surviving correspondence makes it clear that the maestro viewed opera composition as exhausting drudgery. As his wealth accumulated, Verdi reduced his compositional effort -- from 14 operas in the 1840s to seven in the 1850s, two in the 1860s, and one each in the succeeding three decades. The reduction in effort cannot be attributed to declining ability; some of Verdi's great operas are among the handful of late compositions. Rather, his correspondence makes clear, the higher "price" elicited for each opera made it possible to reduce effort along a classic backward-bending supply curve. Even without the benefit of copyright, opera composers Gioachino Rossini and Gaetano Donizetti behaved similarly, reducing their composition effort as they accumulated from their successes sufficient fortunes to abate further income-earning desires.[11]

In deriving economic benefit from copyright law, Verdi may have been an extreme case among composers born during the first half of the 19th Century. Somewhat more typical, but still in the upper range of musical success, was Robert Schumann. Among the 646 composers in my statistical sample, Schuman ranked tenth in the length of Schwann recorded music

---

11 . See Quarter Notes and Bank Notes, pp. 89-90.

listings. Schumann's case can be examined more carefully than most because he kept meticulous accounts of his revenues and expenditures. Copyright in Germany was a reality during the most productive years of his relatively short career. Much of his work was published. He published through 21 different publishers, suggesting the use of competition to enhance honoraria. Figure 5 presents a lower-bound estimate of Schumann's total publication honoraria for the years 1840 through 1853. It is lower-bound because revenues from a few works may have been overlooked in his accounts, but the omissions are unlikely to be substantial. The largest single honoraria were for an opera, in 1850, and an oratorio, in 1845. There is a rising trend over time as his fame grew. But even in 1852, the year of maximum publication revenues, his total publication revenues of 1,445 Thalers were less than his 1,920 Thaler expenses in 1841 -- a year for which particularly detailed accounts exist. And expenses in that year were undoubtedly lower than in subsequent years. In 1841, the Schumanns had only one child, Marie. Eventually, they had seven surviving children and maintained a greatly expanded household. Thus, the Schumanns had to augment publication income with other sources of revenue -- i.e., his profits from publishing a musical journal, Robert's later salary (briefly) as music director in Duesseldorf, occasional teaching fees, Clara's fees performing as one of Europe's most brilliant concert pianists, and drawing down the capital from Robert's inheritance.

6. Copyright Revenues and Incentives

As we have seen in Figure 1, the judgment of posterity awards a highly skew distribution of valuations, measured through music recordings, to the creative works of composers born between 1650 and 1849. Necessarily fragmentary data suggest that economic rewards at the time the composers lived were also skew-distributed. For 23 prominent composers on which I was able to obtain terminal estate estimates, I found that the wealthiest 10 percent (i.e., two) accounted for 52.8 percent of total sample estate assets.[12] For a larger sample of Viennese Kapellmeisters and free-lance composers compiled by Julia Moore, the top 10 percent accounted for 64 percent of terminal net worth.[13] When the list is augmented to include less prominent musicians, the

---

12 . Quarter Notes and Bank Notes, p. 105.

13 . Julia V. Moore, Beethoven and Musical Economics, Ph. D. dissertation, University of Illinois at Champaign-Urbana, 1987, pp. 413-417 and 463-465. In my opinion, Moore's important work has been woefully ignored by musicologists.

distribution is even more skew, with the top 10 percent accounting for 86.5 percent of net worth. These highly skew distributions are similar to those found for citizens living now in industrialized nations, and I have no doubt they also reflect the distribution of rewards to contemporary composers and performers.

Now I take a tentative step further. Extraordinary economic success may, as in the case of Giuseppe Verdi, have led to lessened effort along a backward-bending supply curve. But in my judgment, the important social function of such extreme rewards is not simply to induce the effort of the most successful recipients, but to act as a beacon luring others to try their hand at the game and, with a lot of luck, to emulate the success -- measured both in income and the opportunity to enjoy leisure -- of the super-stars. I believe this phenomenon explains why so many try their best not only in cultural activities, but in the creation of new high-technology ventures, at least in the United States. As Joseph Schumpeter wrote:[14]

> Spectacular prizes much greater than would have been necessary to call forth the particular effort are thrown to a small minority of winners, thus propelling much more efficaciously than a more equal and more "just" distribution would, the activity of that large majority of businessmen to receive in return very modest compensation or nothing or less than nothing, and yet do their utmost because they have the big prizes before their eyes and overrate their chances of doing equally well.

Nor need it simply be a matter of overrating one's statistical chances. There is evidence from horse race betting and lotteries, and one can infer the same from high-technology entrepreneurship and perhaps compositional effort, that individuals are often skewness lovers -- that is, they are motivated especially strongly by a high third moment of the prospective reward distribution.[15] For this there is not only speculation, but some prestigious economic theory. In a pioneering 1948 paper, Milton Friedman and James Savage proposed that the expected utility function for wealth is ogive, with a stage of diminishing marginal returns, as Marshall and many others argued, but, well beyond individuals' current wealth position, a stage of increasing

---

14 . Capitalism, Socialism, and Democracy (Harper: 1942), pp. 73-74.

15 . Scherer, "The Innovation Lottery."

marginal returns.[16] Thus, pursuing a profession with long-shot odds on becoming very rich can be consistent with a rational expected utility-maximizing strategy.

As the Verdi case suggests, copyright can contribute to the odds that, with luck, one can attain superlative rewards. Indeed, absent copyright, it is the works of the most successful authors that will draw imitators most rapidly, reducing the skewness of the reward distribution. Thus, just because Giuseppe Verdi and other highly successful composers reduced their composing effort when they achieved great financial success does not eliminate the possibility that observing those successes spurred others on to try the luck at the game.

One would prefer more solid confirmation of this "demonstration effect" hypothesis. With my sample of 646 composers I attempted a statistical test, but I have to confess failure. The hypothesis was that the appearance of musical copyright in England and France led to an increase in the number of individuals per million population who became composers productive enough to enter my sample relative to pre-copyright cohorts, holding constant entry rates for control nations.[17] For the United Kingdom, the hypothesis was plainly not sustained. See Table 1. For France there was support; the increase in individuals becoming composers after copyright emerged was greater than it was in control nations Germany, Italy, and Austria. But one must be reticent about inferring causation because of concurrent confounding events -- notably, the changes in opportunity that came from the Revolution and the establishment in 1795 of the Paris Conservatoire (which by October 1796 had enrolled 351 pupils -- many more than had been trained in earlier musical education institutions).[18] So a verdict of "not proven" must be entered.

We must also be cautious in attributing too much of a stimulative effect to copyright. Many people became composers because they loved what they

---

16 . Milton Friedman and L. J. Savage, "The Utility Analysis of Choices Involving Risk," Journal of Political Economy, vol. 56 (August 1948), pp. 279-304.

17 . Quarter Notes and Bank Notes, pp. 195-196. The hypothesis could not be tested for Germany, Austria, and northern Italy could not be tested because the change in copyright regimes came too late, given my 1849 birth cutoff.

18 . "Paris," The New Grove Dictionary of Music and Musicians (1980), vol. 14, p. 218.

were doing. Few attained the success and riches of Rossini, Handel, Paganini, and Verdi, but many if not most were able to sustain a comfortable middle-class existence as employed musicians, teachers, or through income-earning sidelines. The most prolific composers devised ways to maintain some, even if not all, of their potential first-mover advantages in publishing through secrecy, close control of copyists, doing business mainly with scrupulous publishers, self-publication (e.g., J.S. Bach and Beethoven's Missa Solemnis), and in the perhaps extreme case of Beethoven, taking out advertisements warning consumers of defective unauthorized copies. And like Mozart in writing his Requiem (K.V. 626), they contracted with individuals and organizations to write specific works and did not deliver the score until they were paid.

Perhaps most telling of all, what is widely considered the golden age of classical music composition occurred with very limited presence of an effective copyright domain. Reviewing the 20th Century recording leaders portrayed in Figure 1, we cannot help but notice that leaders Mozart, Beethoven, J.S. Bach, Schubert, Joseph Haydn, Vivaldi, and Rossini achieved their fame from home bases in which effective copyright protection was unavailable. To be sure, among those leaders, Haydn and Beethoven took advantage of copyright in England, and Rossini achieved his largest returns under the traditional reward system provided by the Paris Opera -- a system that predated the French copyright law. An attempt was made to divide the recorded music volume of the 646 composers comprising my large sample into two groups -- those who composed with little or no home copyright protection vs. those for whom copyright laws existed during most if not all of their lives.[19] When a composer moved from a non-copyright to a copyright domain for a substantial period, an attempt was made to attribute all of his output to the copyright domain. Altogether, for the 646 composers, there were 15,534 linear centimeters of recorded music notations in the Schwann catalog. In estimating non-copyright output, the 679 cm. output of 18 composers known to have held feudal privileges was subtracted.[20] From the output of the remaining composers, 8,428 centimeters of output, or 54 percent of the whole-sample total, were attributable to composers who lived most or all of their lives in a

---

19 . The dividing criterion was: was a copyright law in existence locally five years or more before the end of an individual's life?

20 . Privilege holders were identified from Pohlmann, supra note 8, and individual biographies. The list is undoubtedly incomplete, but the output count of covered individuals errs on the high side because far from all of their work was protected by privilege.

minimal copyright environment. This estimate could be too high in ignoring the opportunities for obtaining copyright outside the composer's home base, but it is biased weakly on the low side by ignoring the output of composers from numerous small nations accounting for only meager output.

We conclude that the absence of effective copyright certainly did not cause creative musical output to be stalemated. There is reason to believe that copyright systems made a positive contribution to the economic success achieved by some composers. But copyright was by no means the only operative stimulus. The world would be full of glorious music even if copyright laws had not come into being.

Figure 1

Recorded Music for the 646 Composers by Birth Year

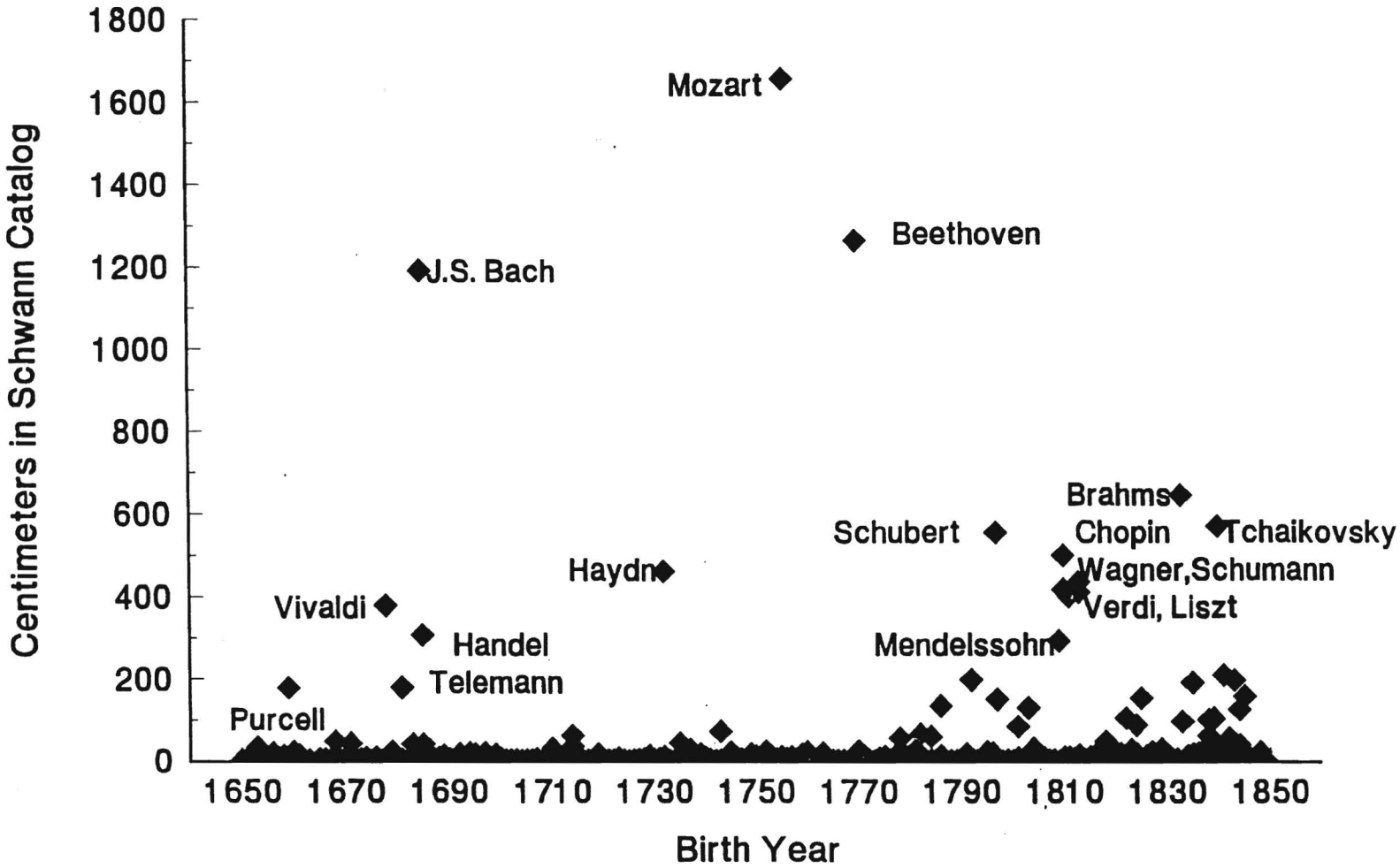

Figure 2

Composers Engaging in Significant Free-Lance Activity

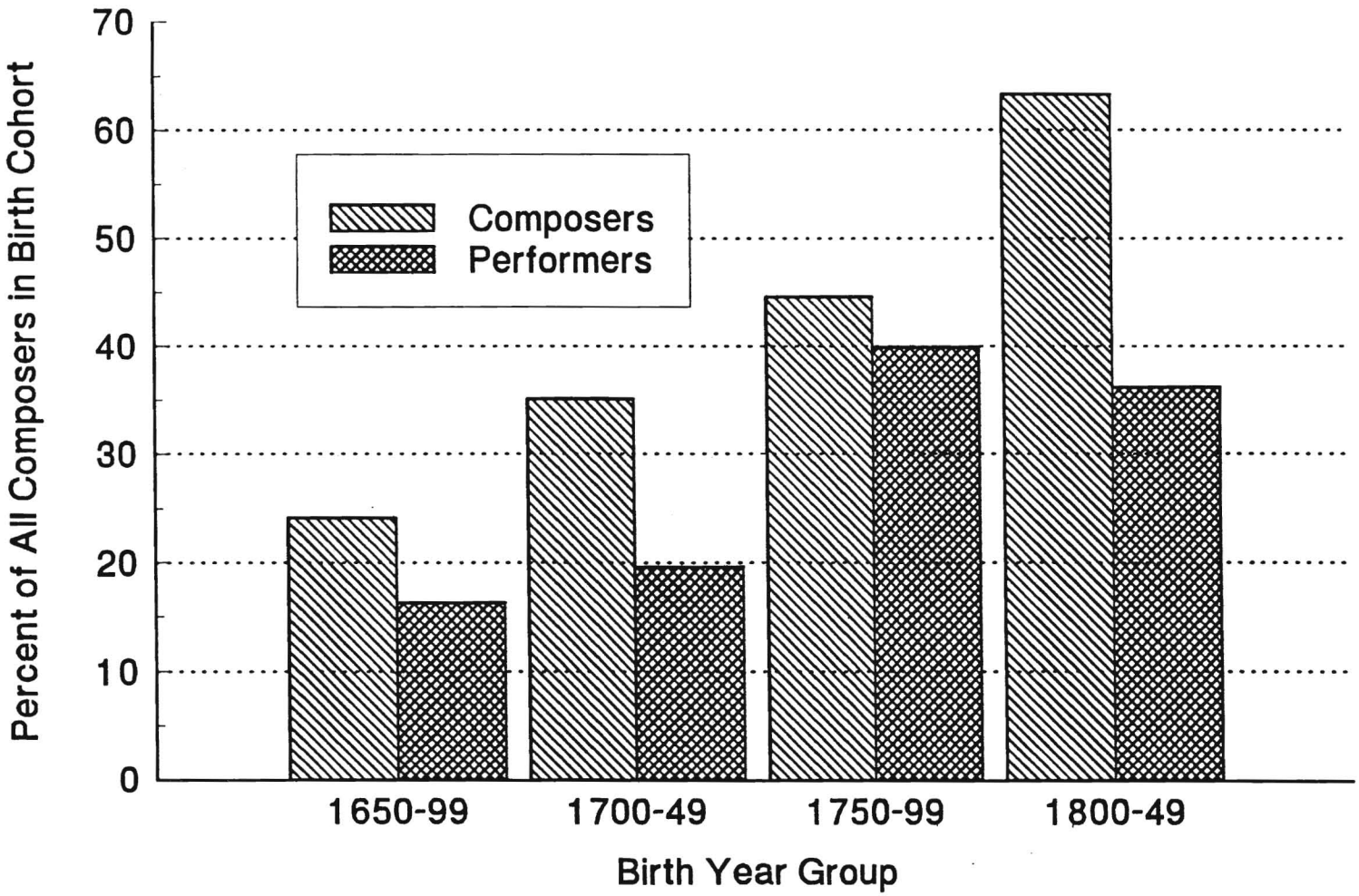

Figure 3

Number of Composers with Minimal Church or Court Employment Pursuing Significant Free-Lance Activity

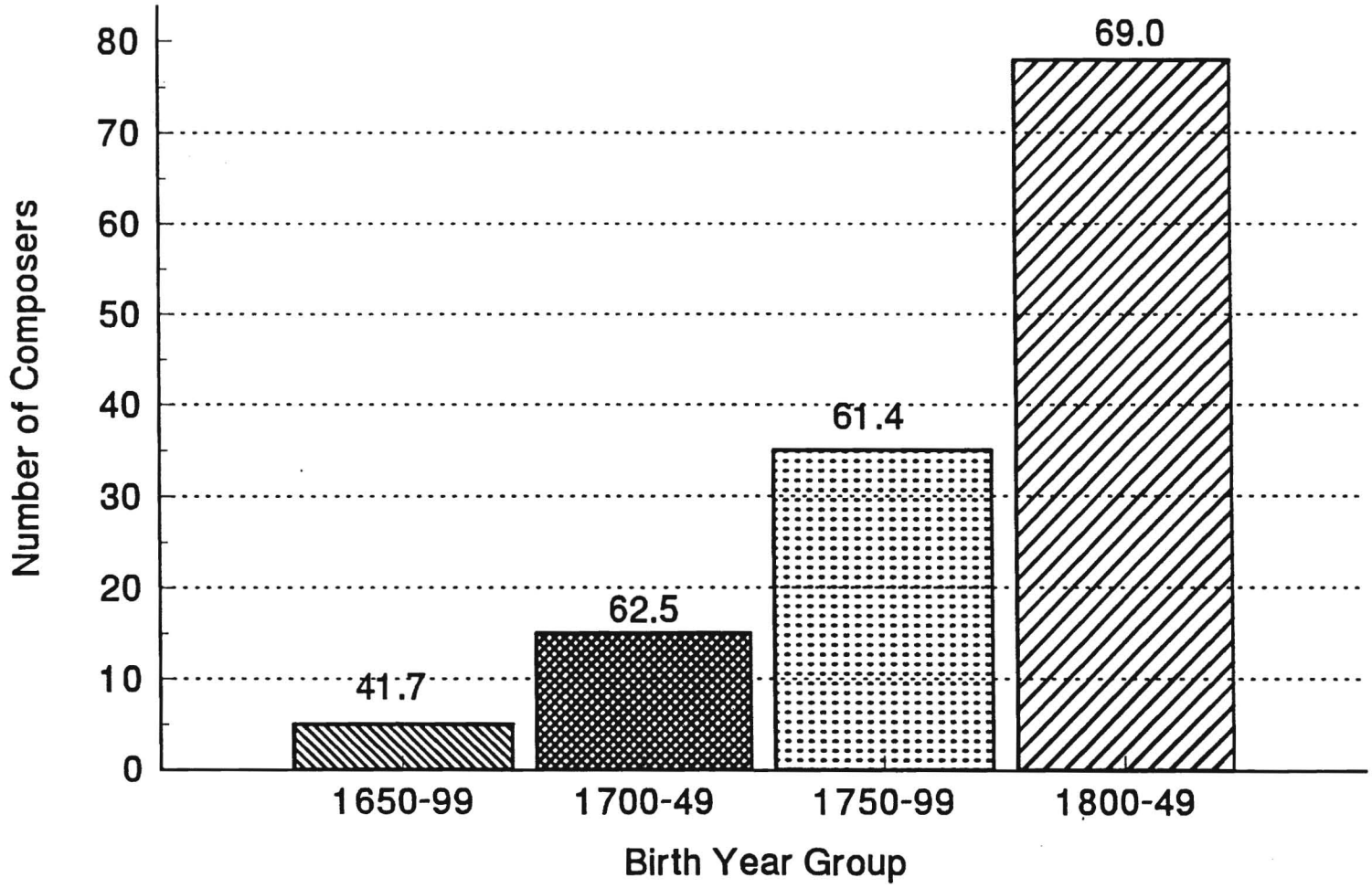

Figure 4

Cost Comparison Between Engraved and Hand-Copied Music

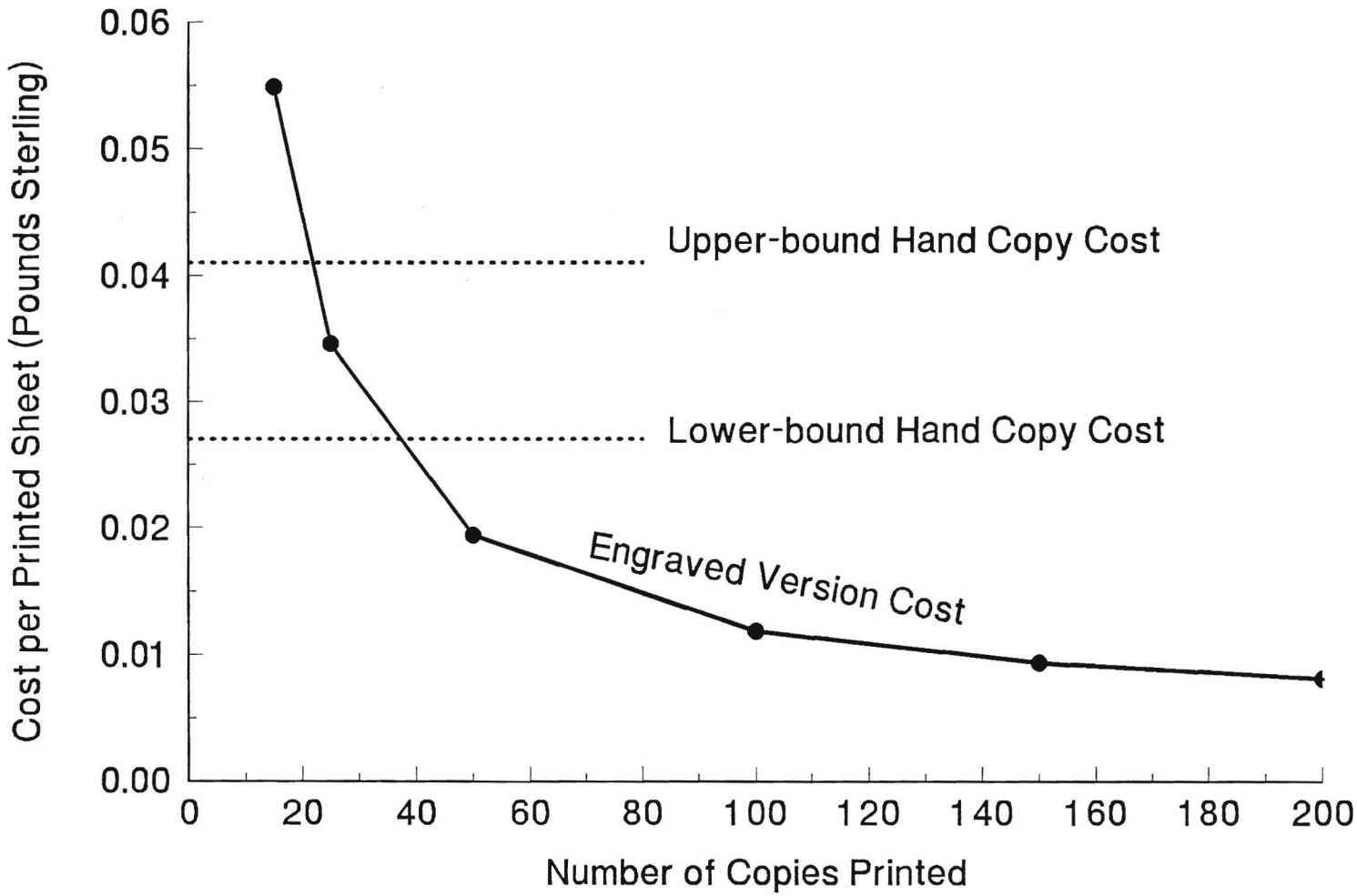

Figure 5

Robert Schumann's Annual Publication Honoraria

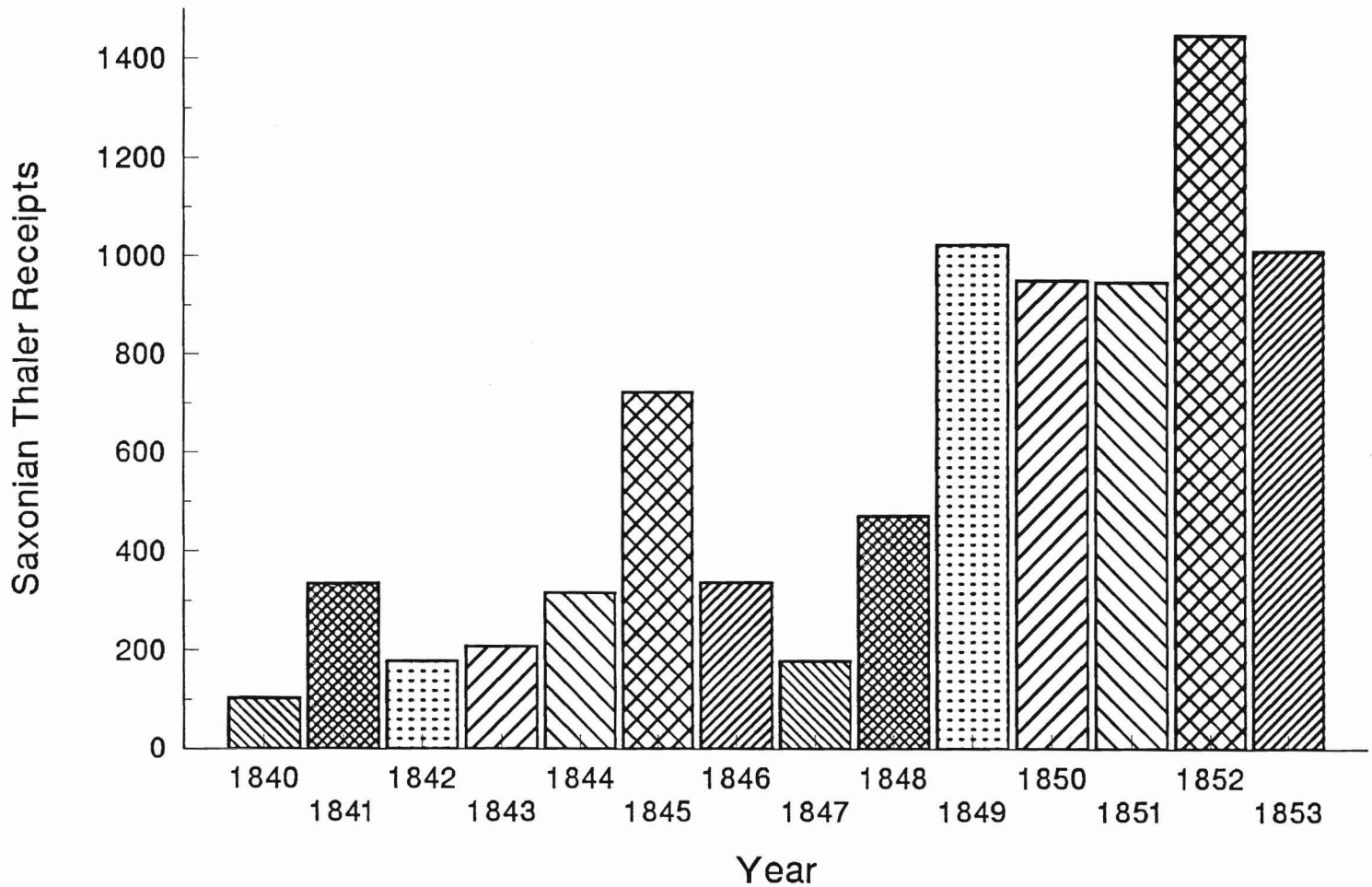

Table 1

Average number of composers born per million population per decade in the pre- and post- birth date periods for four nations:

Nation	(a) 1700-1752	(b) 1767-1849	b/a
United Kingdom	**0.348**	**0.140**	**0.40**
Germany	**0.493**	**0.361**	**0.73**
Italy	**0.527**	**0.186**	**0.35**
Austria	**0.713**	**0.678**	**0.95**

Nation	(a) 1700-1768	(b) 1783-1840	b/a
France	**0.126**	**0.194**	**1.54**
Germany	**0.527**	**0.340**	**0.65**
Italy	**0.487**	**0.153**	**0.31**
Austria	**0.857**	**0.740**	**0.86**