Chapter 4

THE EVOLUTION OF MUSIC MARKETS*

F.M. SCHERER

Harvard University Emeritus, USA

Contents

Abstract 124
Keywords 124
1. Introduction 125
2. The evolution of music performance venues 125
  2.1. Church support 126
  2.2. Support from noble courts 127
  2.3. The rise of private sector support 129
3. A quantitative perspective 130
  3.1. Building human capital 133
  3.2. National differences 134
4. Music publishing and intellectual property 136
5. The popularization of musical culture 138
References 142

* This chapter is based in substantial measure on the author's (2004) book. When other references are lacking, it can be assumed that the book is the source of relevant and additional evidence.

Handbook of the Economics of Art and Culture, Volume 1
Edited by Victor A. Ginsburgh and David Throsby
Copyright © 2006 Elsevier B.V. All rights reserved
DOI: 10.1016/S1574-0676(06)01004-0

Abstract

This chapter traces the development of markets for music over the past several centuries. Formally organized music was at first supported primarily by churches and the nobility. Indeed, during the 18th century there was a kind of "arms race" in which noble houses competed for prestige through the quality of their orchestras and operas. Gradually, however, the role of churches and the nobility declined and more market-oriented venues, including vibrant markets for free-lance performance and composition, became dominant. A survey of 646 musicians born between 1650 and 1849 quantifies these trends, along with the increasing tendency for composers to earn their livelihood in part by teaching in conservatories and other music schools. The same data set is tapped to show the various ways in which composers learned their musical skills. When the data are analyzed in still another way, Austria is found to be the most intensive employer of composer–musicians per million population and also to have given birth to the largest number of composers relative to its population. The territory that in 1990 was Czechoslovakia was second in births; Germany was second in employment. One means by which composers derived income, especially with the ascendance of free-lance composition, was publication of their creations. The evolution of publishing technology and music copyright is traced. Gradually, as income per capita grew in the industrialized nations, audiences for musical performances broadened until by the end of the 19th century mass markets came into being. Radio and the phonograph radically transformed the ways music was enjoyed and widened the market for music even more. The electronic media in turn intensified a tendency that was already evident in the early 18th century – the ability of a few "superstars" to achieve spectacular financial success.

Keywords

music composition, music performance, free-lance creative activity, feudalism, human capital

JEL classification: Z10

1. Introduction

Music has been a vital part of human society for as long as there is recorded history. The oldest known musical instrument, a seven-hole Chinese flute, was carbon-dated in 1999 to the year 7000 BC. Not long after the Israelite exodus from Egypt, Joshua is said in the Old Testament to have breached the walls of Jericho by having seven priests blow ram's horn trumpets while circling the city. In the mythology of ancient Greece, the god Apollo playing a stringed lyre is said to have won a competition, judged by the muses, against the flute-playing satyr Marsyas.

One characteristic making music interesting from the perspective of economics is that it is an activity that eventually came to be market-oriented, giving rise to a complex set of vertically-linked enterprises. Consumers derive satisfaction from hearing music and performing it themselves. When individuals or families perform music, they must be trained to do so, often by specialized teachers offering their services privately or through schools. Most of the music they play is composed by other specialists, whose works reach the players through the intermediation of music publication firms. Music is performed on instruments produced by still another specialized industry. And when consumers enjoy music performed by others, the performances are typically organized by patrons, churches, or concert management organizations, which employ professional musicians either regularly or in a series of ad hoc market transactions. Or in more recent times, the music is supplied by electronic recording and/or broadcasting enterprises.

These various industries together entail a substantial amount of economic activity, only parts of which are systematically measured. In the United States during 1998, 183,000 persons were employed as musicians and/or composers [US Bureau of the Census (1999, p. 242)]. Sales of musical recordings in 1996 amounted to $12.5 billion; instrument sales were $1.17 billion; and in 1997, music publishers had sales of $1.36 billion (*Ibid*., p. 587). For 45 of the estimated 350 professional classical music-performing orchestras in the United States on which systematic data for the 2001–2002 season are available (usually for the more prominent ensembles), annual budgets totaled $1.14 billion. The largest single budget, at $197 million, was that of New York's Metropolitan Opera [American Federation of Musicians (2003)].

This chapter focuses on facets of the music "enterprise" that are either explicitly market-oriented or occur within organizational frameworks, with emphasis on the composition and performance of classical music. This by no means denies the fact that in many nations there are long traditions of folk music passed on informally from generation to generation, or that "popular" music now enjoys much wider market appeal than the classical music emphasized here.

2. The evolution of music performance venues

Since the earliest times, markets have gradually come to play an increasingly prominent role in the organization and supply of music. Two of Richard Wagner's operas

deal with alternative modes in which musical activity was organized in Europe during the Middle Ages. Under one mode, skilled minstrels wandered from town to town performing their music and enjoying the hospitality (including financial support) of local barons. *Tannhäuser* embellishes on an actual gathering of German minstrels around the year 1210 (documented in the *Codex Manesse*) at the Wartburg castle near Eisenach (much later, the refuge of Martin Luther and the birthplace of Johann Sebastian Bach). Organized by Duke Hermann von Thüringen, it was a competition among the best-known minstrels, including Wolfram von Eschenbach, Walther von der Vogelweide, and Klingsor from far-off Hungary. In the opera version, the prize is the hand of the duke's daughter Elisabeth in marriage. What the actual prize was remains unclear; it must at least have been Olympian prestige and probably also a monetary reward. Wagner's *Meistersinger von Nürnberg* parodies the amateur singing societies or guilds that sprang up in German towns during the middle ages – in the case depicted by Wagner, in the commercial town of Nürnberg during the early 16th century. Strict rules were enacted for the forms in which songs could be sung, and members of the guild performed in periodic competitions with the goal of winning temporary possession of a silver necklace prize awarded to the entrant who committed the fewest singing errors.

2.1. Church support

A venue for music performance with even longer historical roots was the church, or more accurately, the assortment of Christian orthodoxies. Plainchant was a significant but growing component of Roman Catholic services from at least the conversion of the Roman emperor Constantine (312–337). By the eighth century, it became known as Gregorian chant. During the middle ages, song during church services began to be accompanied by an organ, first in monasteries and then in lay churches. The music performed in Roman Catholic churches became increasingly elaborate, culminating in the exquisite antiphony and polyphony of Giovanni da Palestrina during the 16th century. In 1562 and 1563 the Council of Trent considered a mandate requiring music during the Catholic mass to retreat toward monophonic forms that "may be clearly understood by all". Although guidelines were adopted, rigid rules were opposed by Holy Roman Emperor Ferdinand I, and as a result, subsequent popes chose to decentralize musical decisions to local prelates. One hundred flowers were allowed to bloom, leading *inter alia* to the richly orchestrated masses of Johann Sebastian Bach, Joseph and Michael Haydn, Mozart, and Beethoven.

Meanwhile, Martin Luther, who spearheaded the Protestant Reformation with the posting of his 95 *Theses* in 1517, argued that music, as an "excellent gift from God", should have a central role in religious services – among other things, in the form of chorales sung by the entire congregation. Within the Protestant denominations there were strong differences of opinion. Music flourished in German Lutheran parishes, as it did within the Church of England. In Switzerland, on the other hand, followers of Huldreich Zwingli eliminated singing and organs from their services, and in England under Puritan Oliver Cromwell (between 1649 and 1658) music was banned from church ser-

vices and organs were removed or even destroyed. The Restoration under Charles II among other things returned music to the churches. Thus, both in England and on the European continent, diverse opportunities opened up for the employment of musicians as choir directors, organists, choir members, and (in the better-endowed parishes) orchestra members. Some of the more important parishes also maintained choir schools that trained many generations of fledgling musicians.

As the Middle Ages gave way to the Renaissance, musicians became less itinerant and began to move from amateur status to regular employment. Churches provided one important locus of long-term employment. European towns also hired musicians to be "pipers", performing regularly on flutes, trumpets, and drums with local militias and at town celebrations. And wealthy, typically noble, households began retaining musicians as regular members of their staffs, rather than relying upon occasional visits by wandering minstrels.

2.2. Support from noble courts

In many parts of Europe, church and state were closely linked. Kings and local feudal lords were responsible for sustaining church services at their residences, and as such, established chapel musical establishments. The chapel musicians were commonly asked to do double duty performing at festive occasions and in some cases regularly during meals. Gradually a division of labor emerged, with some musicians assigned primarily to chapel duties and others assigned to provide entertainment in the royal household. This duality existed, for example, at Versailles during the reign of Louis XIV (1659–1715).

What happened in central and southern Europe was of the utmost significance for the development of music as a professional activity. Between 1618 and 1648 most of Europe was enmeshed in a devastating Thirty Years War. When the war ended with the Treaty of Westphalia in 1648, what is now Germany was divided into several hundred individual kingdoms, principalities, and dukedoms, some Protestant and some Catholic, each required to yield only minimal deference to the Holy Roman Emperor. In Austria, which also controlled Hungary, what later became Czechoslovakia, and parts of northern Italy, political power was more centralized in the Kaiser-Emperor, but feudal lords governed at the local level. The parts of Italy not under Austrian subjugation were also divided into many smaller political units, some under Spanish or French rule, some under papal domination, some surviving as feudal states under local kings or dukes, and some (such as Venice) as independent city states.

Especially in the German-speaking parts of Europe, populations were decimated by casualties, famine, and disease resulting from the Thirty Years War. Most of the arable land was controlled by feudal lords with noble titles, e.g., king, prince, or duke. With fewer mouths to be fed, land rents at first fell. But as populations were restored following the Treaty of Westphalia, rents gradually rose, and noble landlords profited. Somehow – the exact historical dynamics are uncertain – it became fashionable for local sovereigns and lords to establish their own court orchestras and, in the larger dominions, their own

opera houses. Individual local nobles began competing for prestige through this form of conspicuous courtly consumption. See especially Elias (1969) and Raynor (1972). The competition escalated in a kind of cultural arms race, so that by the first half of the 18th century, no self-respecting court in what had been the Holy Roman Empire could be without its court orchestra or other group offering regular musical entertainments.

This proliferation of noble courts with musical ensembles is said to have given rise to a golden age of musical creativity. Augmenting a similar hypothesis advanced by sociologist Norbert Elias (1991), William and Hilda Baumol (1994) asserted:

> Obviously, economic and political conditions cannot create talent, but they certainly can either inhibit it or provide opportunities for its exercise. Our main hypothesis is intended to narrow the pertinent geography – to help account for the striking level of composing activity emanating from Germany and Italy. This hypothesis suggests that the political division of the Holy Roman Empire and the Habsburg possessions into many petty states worked to produce the circumstances (notably substantial demand and a profusion of jobs) that help to explain the profusion of musical productivity (p. 172).

Although the noble courts provided abundant employment opportunities for musicians and, for those with the creative talent to rise from the instrumentalist ranks, for composers, court employment was not without its disadvantages. Once a musician had secured a court position in what was a fairly competitive job market, he could not leave that position without the lord's express permission (or under some contracts, until the lord's death). Johann Sebastian Bach was imprisoned for nearly four weeks in 1717 when he attempted to break his contract with the Duke of Weimar. Mozart was fearful that if he returned in 1783 to visit his father in Salzburg, he would be imprisoned by Prince-Archbishop Colloredo, whose employ he left without permission two years earlier. On the other side of the ledger, a musician could be discharged summarily at the lord's whim – an experience that led Georg Philipp Telemann to remark that "whoever seeks life-long security must settle in a republic" – that is, in a job not dependent upon feudal lords. In addition to addressing their masters in the most abjectly deferential language, musicians were required to wear the livery (uniform) prescribed by the master. Niccolò Paganini was discharged for his failure to do so in Parma. Among other things, masters stringently limited outside dissemination of works composed by their court musicians. When Nicolò Jommelli left the service of Duke Carl Eugen of Württemberg in 1769 during a budgetary crisis, he was not allowed to take with him copies of the operas and other works he had composed. And discrimination in the wages paid musicians could be extreme. The highest salary Carl Philipp Emanuel Bach (son of Johann Sebastian Bach) received as harpsichordist and composer in the court of King Frederick the Great of Prussia was 500 thaler per year (about £80 at the exchange rates prevailing at the time), while Johann Quantz and Karl Heinrich Graun were paid 2000 thaler and leading opera singers employed by the court were paid as much as 6000 thaler.

During the second half of the 18th century and early decades of the 19th century, noble court support of musical ensembles was substantially reduced. There appear to have

been three main reasons for this change. First, major wars, notably, the Seven Years War between 1756 and 1763 and the Napoleonic wars between 1792 and 1815, drained the treasuries of many local and territorial governments. Second, the "arms race" in conspicuous musical consumption raised the costs of maintaining a suitable musical program to the point at which many courts found themselves unable to keep pace. Third, feudal oppression of the peasants employed on feudal lords' vast landholdings (encompassing a majority of the continental European population in 1750) lost its intellectual support as a consequence of Enlightenment philosophical arguments and because it proved to be much less efficient than agriculture carried out by well-motivated land-owning smallholders.[1] Emancipation of European peasants was accelerated by revolution – notably, the French revolution of 1789 and the brief revolutions of 1848 – and the abolition of many feudal rights by French occupying forces during the Napoleonic wars.

Feudal reform also reduced the resources available to religious establishments, and especially the Catholic Church, for the support of musical activities. In particular, lands owned by clerical establishments were confiscated in Austria under enlightened Emperor Joseph II during the early 1780s and in France following the 1789 revolution.

2.3. The rise of private sector support

Replacing court and church support of musical activity to some extent was the growth of middle-class citizens' demand for musical performances and training. The industrial revolution originating in England during the 18th century and spreading gradually to the European continent increased both the number and wealth of middle-class merchants, manufacturers, financiers, and barristers with means sufficient to enjoy the consumption of music in its various forms, notably, through both home performance and participation in public concerts. London, vanguard of the industrial revolution, developed a thriving private-sector concert life during the 18th century.[2] Amsterdam and some of the leading mercantile cities of Germany and Italy (notably, Venice) expanded private-sector music venues in parallel. Other European cities gradually followed suit. For musicians, there were increased opportunities to obtain employment with orchestras organized outside feudal courts, to undertake free-lance virtuoso performances, to give music lessons to the children of an expanding middle class, to compose works that would yield revenue through publication or commissions from private orchestras, and to join the faculties of a growing number of music schools and conservatories. Part of this change entailed a shift from one mode of employment to another under less servile conditions. Part represented a shift from earning a living as an employed musician to market-oriented free-lance activity.

In opening up opportunities for free-lance music composition and performance, opera was the leading-edge sector. The prototype for modern opera, Claudio Monteverdi's

[1] See Blum (1978) and Delon (2001).
[2] See McVeigh (1993).

Orfeo, was performed under the sponsorship of the Duke of Mantua, Italy, in 1607. As enthusiasm for opera spread, some noble courts in Italy, Austria, France, Germany, and Russia emulated the pattern established at Mantua. The sovereign or feudal lord built an opera house, created a managerial structure and participated in its decision-making, and provided regular subsidies to sustain continuing performance schedules. This had two disadvantages: given the competition for prestige among various courts, a tendency toward excessive or even ruinous expenditures; and the inflexibility or stifling of creativity that can come from bureaucratic decision-making.

An alternative originated in the free mercantile city of Venice with the opening of the first public opera house, San Cassiano, in 1637. Under the pattern established in Venice, a group of wealthy citizens joined to contribute funds needed to build an opera house, obtaining in exchange for their contributions preferred boxes and the right to nominate a management committee. The management committee retained an impresario, who, with the advice and consent of the committee, laid out a program of performances, chose libretti for new operas, negotiated with composers ad hoc contracts to provide the necessary musical score in collaboration with the librettist, hired singers, musicians, scenery designers, and the like; and attended to the thousand-and-one details required for successful performances. The impresario also accepted some of the financial risks attending the performances he organized, not infrequently sustaining substantial losses and fleeing creditors in the dark of night. Noteworthy also in this organizational schema is the fact that composers, librettists, and leading singers competed on a free-lance basis to make their contributions. The Venetian system was widely emulated in other parts of Italy and eventually in some German cities (notably, those not controlled by feudal lords), London, Vienna (beginning around the onset of the 19th century), and New York, among other locations.[3]

3. A quantitative perspective

How these complex changes evolved over time can be seen through a quantitative analysis, drawn from Scherer (2004), of a sample of 646 music composers born between the years 1650 and 1849. The composers were chosen on the basis of two criteria: for creating works with sufficient survival value to be listed in the *Schwann Opus* catalogue of recorded music for Fall 1996; and by leaving a sufficient historical record that their biographies were published in the *New Grove Dictionary of Music & Musicians* [Sadie (1980)]. The number of composers in each of the four half-century birth date cohorts was 141 for 1650–1699, 148 for 1700–1749, 168 for 1749–1799, and 189 for 1800–1849.

Each composer's biography was coded for various attributes, including places of birth, family background, educational background, how the composers earned a living, and the geographic locations in which they worked during their lifetimes. Figure 1

[3] See Bianconi and Pestelli (1998) and Rosselli (1984).

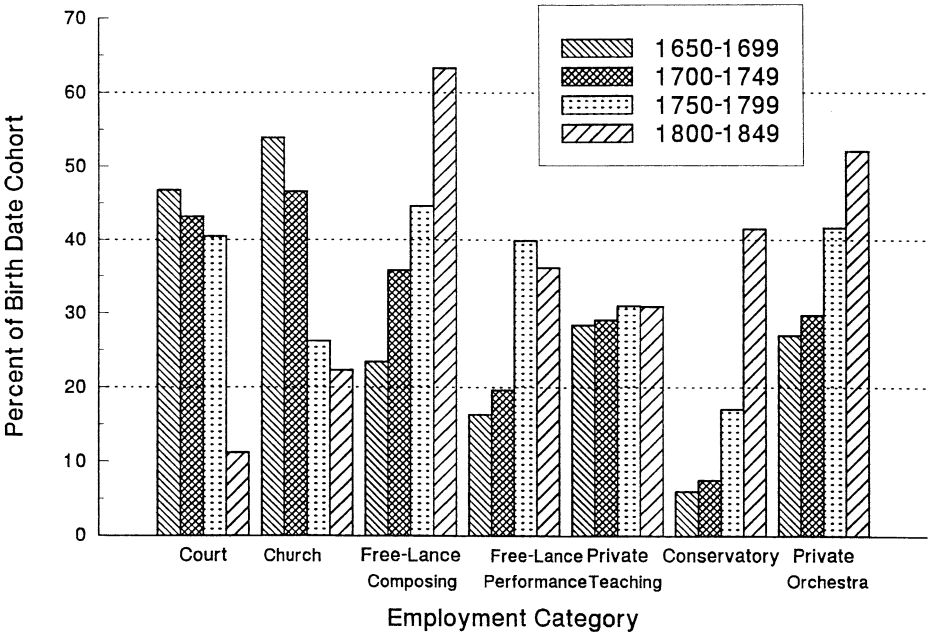

Figure 1. Trends in composer employment over two centuries.

provides broad insight into the ways composers earned their living. Only activities classified as "primary" or "secondary" to a sample member's occupation are counted. Six categories are traced by 50-year birth date interval:

(1) employment with noble courts, excluding the receipt of subsidies not conditional upon regular employment duties;
(2) employment as a church musician or music director, excluding religious duties unconnected with music;
(3) seeking compensation as a free-lance artist composing music for impresarios, publishers, or performance in self-initiated concerts;
(4) free-lance performance on self-initiated concert tours or as an ad hoc featured soloist in orchestral concerts;
(5) teaching in a conservatory or other public music school;
(6) free-lance teaching (outside the scope of organized music schools and conservatories); and
(7) participation as either a performer in or director of orchestras unaffiliated with church or nobility.

Needless to say, sample members often pursued more than one of these activities, either at successive career stages (e.g., when Johann Sebastian Bach left his job as Kapellmeister for the Prince of Köthen to become director of music in four Leipzig churches and the Thomasschule), or simultaneously (e.g., when Bach moonlighted

as director of a private concert-giving ensemble, the Collegium Musicum, during his church and school employment tenure in Leipzig). On average, composers born in the 1650–1699 period, as Bach was, were coded as engaging in 2.01 primary or secondary activities, as categorized in Figure 1. For composers born in 1700–1749, the average was 2.11; for 1750–1799, 2.41; and for 1800–1849, 2.57. Thus, composers tended to embrace a wider array of occupational categories with the passing years.

We observe sharp decreases over time in the fraction of sample composers employed in courts and churches, with the most dramatic changes materializing for composers born during the first half of the 19th century for court employment and the second half of the 18th century for church employment. There was a concomitant rise in the fraction engaging in free-lance composing and performance activities. The increase in free-lance composing was fairly steady over time, whereas for free-lance performance, activity peaked for sample members born between 1750 and 1799. Further analysis reveals that most but not all of the 33 composers from the 1650–1699 birth cohort with primary or secondary free-lance composing wrote at least two operas – an activity in which free-lance efforts predominated. There is no clear trend in private tutoring, which ranges from 28.4 to 31.0 percent over the four birth date cohorts. Conservatory teaching rose briskly for composers born between 1750 and 1849. So also did participation in private-sector orchestras.

To extend the sample into later periods, a much smaller and less representative sample of ten classical music composers born after 1850 was drawn. With birth and death dates in parentheses, it includes Edward Elgar (1857–1934), Gustav Mahler (1860–1911), Arnold Schoenberg (1874–1951), Ottorino Respighi (1879–1936), Béla Bartók (1881–1945), Paul Hindemith (1895–1963), Aaron Copland (1900–1990), Kurt Weill (1900–1950), Dimitry Shostakovich (1906–1975), and John Cage (1912–1992). The composers in this "modern" sample are uniformly more prominent than the median composer in the earlier, larger sample of 646. When the biographies were coded using criteria matching as closely as possible those applied to the larger sample, only one composer is found to have been employed by "nobility" – Shostakovitch, supported by agencies of the Soviet Union such as the Union of Soviet Composers. None had significant church employment. All engaged in significant free-lance composition. Four were free-lance performers; six performed in and/or directed private-sector (including municipal) orchestras; at least five gave private lessons; and eight taught for substantial periods of time in conservatories or their modern equivalents, the music departments of universities. Confirmed with particular strength are the tendencies toward declining noble and church employment and the increase in free-lance and conservatory teaching activity.

To sum up, over a period of two-plus centuries, there was a transition from support of music composers – the elite of professional musicians – by churches and the nobility to support through more market-oriented institutions, and especially free-lance activities. The changes were gradual and evolutionary, and not linked closely to particular composers such as Mozart and Beethoven, as some students of musical history have suggested.

3.1. Building human capital

From the sample of 646 composers born between 1650 and 1849, insights can also be gleaned on how the sample members learned their trade. For 532 composers, there was sufficient historical information to identify principal learning modes. In many cases several forms of learning were pursued by a single individual; thus, young people might initially be tutored by a family member, then move to instruction from an unrelated professional musician, and then, at least in later periods, receive formal conservatory training. Altogether, 1.83 codes were assigned on average per sample member.

Figure 2 summarizes the results. Within-the-family tutoring was evident in nearly half of all cases, and, because of gaps in the historical materials, its incidence is undoubtedly underestimated. By far the most ubiquitous form of human capital building was private instruction with a professional musician. Although no attempt was made to assess the quality of named teachers, the high incidence of well-known names was striking. Talent is attracted to talent, which in turn leads to professional success. As conservatories were established throughout Europe, there was a sharp rise in formal conservatory training for musicians born between 1800 and 1849. Church choirs and affiliated choir schools provided training for more than a quarter of the sample members born during the second half of the 17th century, but their role faded as the years advanced. Especially in Czechoslovakia and Germany, as defined according to 1992 borders, the primary and secondary school curricula included substantial musical education. The self-teaching

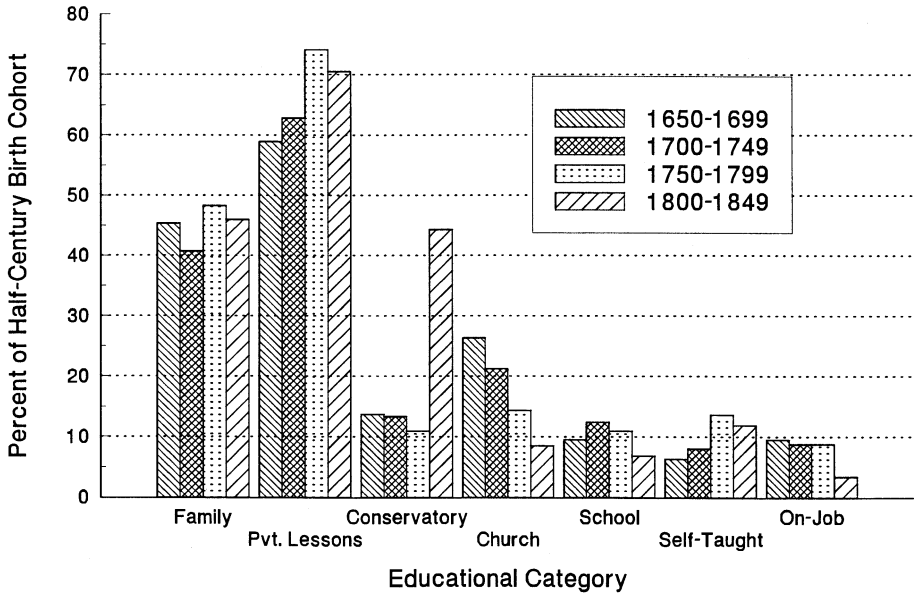

Figure 2. Percent of half-century cohorts with diverse career preparation modes.

and on-the-job-training categories were coded conservatively, counting only cases in which no other training was evident at a formative period or in which a youth joined a court orchestra long before reaching maturity.

3.2. National differences

Classical music composition during the 18th and 19th centuries was preponderantly a European enterprise. Among the sample of 646 composers born between 1650 and 1849, only 17 were born outside Europe, notably, in North and South America. Figure 3 shows for the principal European nations and national groups, as defined by borders existing in 1992, the number of composers born and employed per million population. The raw counts are divided by national population estimates at the time of birth for birth data and at age 35 for the employment counts. The employment counts are for "working life equivalents". That is, for any given sample member, the number assigned to a nation in which the composer worked for two years or more was the fraction of the composer's life from age 20 on spent in that nation.

Austria – home to Mozart, Haydn, Schubert, and (in his mature years) Beethoven, among others – led other nations in both composer births and working-life-equivalent years of residence relative to its (modest) population. The other remnants of the Holy Roman Empire – Germany, Italy, and Czechoslovakia – were the next most prolific producers of composers relative to their population. Russia, with a huge serf population and a particularly small class of noble and middle-class music consumers, trails far behind on both dimensions. Germany, with the richest proliferation of independent noble courts, was second in employment of composers per million residents.

Dividing the employment counts into the birth counts, one can see which nations were the most vigorous importers of composer–musicians and which were exporters. Austria leads the list of importers, with 1.66 equivalent composer working lives per birth; England, with wealthy London as a magnet to immigrant musicians, was second; France with Paris as a magnet was third. Czechoslovakia was in relative terms the leading exporter, followed by Italy. Czechoslovakia's inability to retain its numerous home-grown composers was the result of both demand and supply-side forces. On the demand side, its leading city, Prague, was small relative to most other European nations' capitals, and many Bohemian nobles spent the most fashionable seasons, when music performance was at its peak, at their town houses in Vienna, the imperial capital. On the supply side, there is probably truth in Hector Berlioz' observation that "I must say – since it is a matter of public notoriety – that the Bohemians are the best musicians in Europe, and that the love and feeling for music are universal in all classes of society" [Berlioz (1966, p. 414)].

Apart from this cultural factor, which cannot readily be measured, three main hypotheses contend to explain the intensity with which diverse nations or national groups attracted composers into employment. More employment per million population is expected:

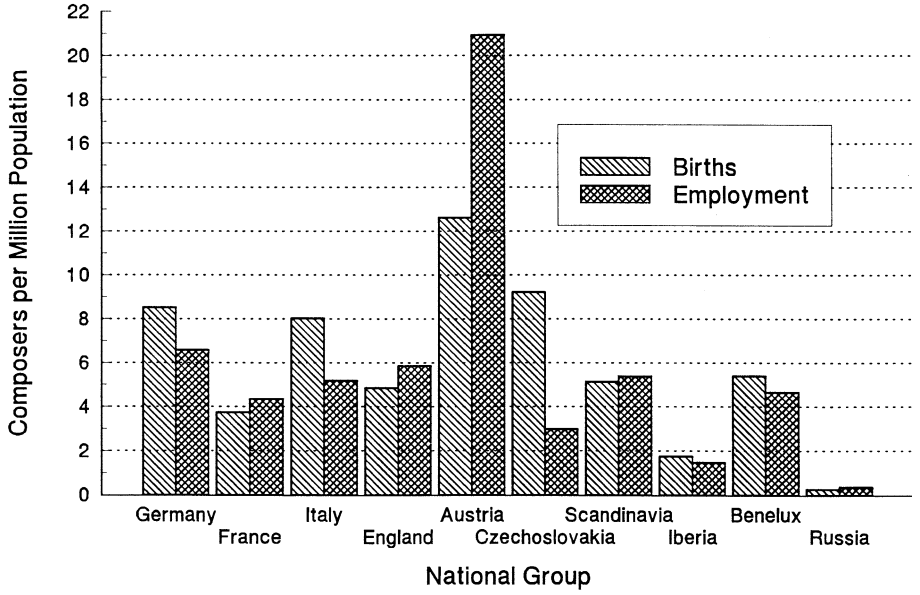

Figure 3. Births and employment of composers per million population.

(1) in the four remnant nations of the Holy Roman Empire, especially before the decline of feudal courts as the 19th century dawned;
(2) in nations such as England, France, and Austria with rich magnet cities; and
(3) in richer nations, as measured by gross domestic product per capita.

Where WORKLIVES is the measure of equivalent working lives per million population plotted in Figure 3; GDP is (crudely estimated) gross domestic product per capita, measured in 1990 dollars; COURT is a zero-one dummy variable with unit values for Germany, Austria, Czechoslovakia, and Italy for each of the first three half-century periods; and MAGNET is a zero-one dummy variable for nations with magnet cities (with Russia added only for the fourth half-century interval); the resulting regression equation was as follows:

$$\text{WORKLIVES} = -0.29 + 0.00080\,\text{GDP} + 1.127\,\text{MAGNET} + 2.497\,\text{COURT};$$
$$(0.41)\quad (1.41)\qquad\qquad (2.70)\qquad\qquad (5.58)$$
$$R^2 = 0.505; \qquad N = 40.$$

T-ratios are given in subscripted parentheses. All three variables have the expected signs and help explain variations in composer employment per million population across four half-century intervals in ten nations or national groupings.

Russia began to absorb western European musical culture on a significant scale during the reign of Catherine the Great (1762–1796). St. Petersburg and Moscow attracted numerous traveling musicians in the first part of the 19th century, during which time a Russian school of composition also grew under the leadership of Mikhail Glinka.

The United States was an even later arrival, but arrive it did. By 1850, New York City had a larger population, excluding suburbs isolated by water barriers, than any European city excepting London and Paris. The New York Philharmonic Society began a regular concert series in 1842. An opera series was established at the New York Academy of Music in 1854. The Academy was displaced following the success of the Metropolitan Opera, whose creation was precipitated in 1883 by a dispute between old and new wealthy factions over the allocation of boxes.[4] Many prominent European music performers, composers, and directors were attracted through the high salaries offered by New York organizations and the orchestras of other leading American cities. At the beginning of the 20th century, as the United States moved ahead of England in having the world's highest average gross domestic product per capita, most of the musicians in the Metropolitan Opera orchestra were from Europe, and rehearsals were conducted in a combination of German and English.[5] But as formal musical training expanded with the founding of the Boston Conservatory in 1867, the Michigan University School of Music in 1892, and the forerunner of the Juilliard School in 1905, among others, the United States began to generate its own indigenous supply of musicians and moved into the forefront of world musical culture.

4. Music publishing and intellectual property

One way music composers could earn free-lance income was by selling their works to publishers or, when the music publishing industry was still in its infancy, engaging in self-publication. In the late middle ages, church music was printed using fixed wooden blocks into which staves, notes, and other symbols were carved. Adapting Johannes Gutenberg's 15th century movable type invention to music printing was difficult because music notation is much more complex dimensionally than simple letter text. Improvements in printing music with movable type accumulated over a period of three centuries. During the 18th century, printing music engraved onto copper or pewter plates was the dominant technology, and there was a proliferation of music publishing houses, a few of which (e.g., Breitkopf & Härtel, Schott, and Ricordi) survived into the 21st century. In the 19th century, lithography appeared as a viable lower-cost alternative to typeset and engraved printing. High-speed rotary presses and computerized note-setting have reduced relative costs even more.

Through much of this formative period, hand copyists provided important competition to music publishers. Opera houses retained copyists to produce parts for the various

[4] See Fiedler (2001).
[5] See again Fiedler (2001, p. 16).

ensemble members, and composers employed copyists to make copies for distribution to patrons and potential publishers as well as for the musicians performing new compositions. Under the traditions prevailing in Italy during the 18th century, the impresario for a new opera had the right to the composer's original score and the copyist to the first copy. The copyists then made additional copies which they sold to provincial and foreign opera houses. When composers hired copyists, it was not uncommon for the copyist surreptitiously to make an additional copy, from which they then derived additional copies for sale to a network of music lovers. Noble courts made copies of their composers' works for exchange with other courts in order to expand their performance repertoire, and once a copy reached some other domain, it was difficult to prevent further copying and circulation. The copies that proliferated in this way were often riddled with errors, but the business thrived.

Music publishers often obtained musical manuscripts through these indirect channels and published a printed version without the composer's permission. Absent effective copyright protection, publishers also pirated for distribution in their home market the works published by their peers in other territories. Rampant piracy limited the revenues composers could derive through authorized publication of their creations.

Music composers were not without some rights to the works they created. Plagiarism, i.e., claiming another person's creation as one's own, was widely condemned. In the 16th through 18th centuries, the principal opportunity for obtaining more secure intellectual property rights in one's musical creation came through the granting of "privileges" by national or local governments. A composer could appeal to the sovereign for an exclusive privilege to publish works within the relevant domain, or publishers could obtain exclusive privileges to publish certain classes of musical compositions. To be sure, political connections and/or bribes might be necessary to obtain a privilege. However, Hansjörg Pohlmann (1962, p. 186 ff.), the leading student of the history of musical property rights, argues that in some parts of Europe, the privilege system was sufficiently open and transparent that it resembled a modern copyright system. Yet even when privileges could be obtained, they were difficult to enforce. And when a geographic area was fragmented into many independent political entities, as Germany was following the disintegration of the Holy Roman Empire, a privilege issued, say, in Mainz had little or no jurisdictional reach to prevent the piracy of a musical work in Leipzig, Munich, or Hamburg, let alone in non-German-speaking lands.

England was the first nation to enact a modern copyright law, the Law of Anne, in 1709. Its application to musical works was first clarified in 1777 through a law suit brought by Johann Christian Bach, the son of Johann Sebastian Bach. France replaced its privilege system – probably the most effectively functioning one in Europe – with a copyright law following the revolution of 1789. The United States passed a copyright law for the protection of domestic residents in 1790; under it, the works of foreign authors and composers could still be pirated legally. In Germany, Austria, Czechoslovakia, and Italy – as we have seen, the most intensive centers of musical composition – copyright law was slower to come. In 1825 a petition drafted by composer Johann Nepomuk Hummel, urged on among others by Ludwig van Beethoven, asked the assembly

of German-speaking nations to overcome their differences and enact uniform copyright laws to prevent publishers from "getting fat by robbing without penalty their neighbors' property". The petition is reproduced in Benyovszky (1934, pp. 131–133). It spurred the formation of a committee to study the problem, and eventually, in the late 1830s, most of the German states passed copyright laws protecting *inter alia* musical works. The Austrian version covered Austrian possessions in northern Italy as well as Czechoslovakia, and in 1840 Austria entered into a mutual copyright accord with the Kingdom of Sardinia (including Savoy), so that the opportunity to secure musical copyright extended to much of Italy, excluding the Kingdom of Naples and the Papal states. The Berne Convention of 1887 allowed composers (and authors) to obtain copyright in any signatory nation, so in effect, the copyright system became world-wide. In the United States, a relatively late signatory, the number of musical copyright applications rose from 9132 in 1890 to 29,151 in 1920 and 52,309 in 1950. In 1950, there were nearly as many copyright applications for musical works as there were for periodical prose works.[6]

Giuseppe Verdi was the first composer of note to derive substantial advantage from the Austrian–Sardinian copyright regime. With his publisher Giovanni Ricordi, he began collecting opera performance fees from the numerous provincial opera houses, at first on a flat fee basis and then, when Ricordi recognized that price discrimination would yield higher revenues, on a graduated "ability to pay" basis. They also aggressively published "reductions" of individual opera arias for voice and piano, solo piano, violin, flute, string quartet, and many other combinations, selling them to the countless opera-loving families of Italy. Through these activities Verdi became quite rich, and as his wealth grew, he reduced the pace of his opera-writing efforts, from 14 operas in the decade of the 1840s to seven in the 1850s, two in the 1860s, and one each in the succeeding three decades. From Verdi's letters emerges introspective evidence that his was in effect a backward-bending labor supply curve.[7] It cannot be ruled out, however, that the fortune Verdi accumulated by selling his works had a demonstration effect, inspiring others to try their hand at composing.

5. The popularization of musical culture

Up to the onset of the 18th century, paying to hear music performed was a pastime enjoyed mainly by the nobility and the wealthiest members of a relatively small middle class. Gradually, however, increasing prosperity plus technological and organizational innovations broadened audiences and ultimately engendered nearly universal public access to professionally performed music.

One event that signaled a change in audiences for music was the London premiere in 1728 of John Gay's *Beggar's Opera*, an irreverent pastiche of already-popular and

[6] See US Bureau of the Census (1960, p. 606).
[7] See Scherer (2004, Chapters 4 and 7).

new English-language songs that enjoyed 62 performances during its first season and was repeated in every London season for the next seven decades. (The plot was later adapted successfully in the Brecht–Weill *Threepenny Opera*.) Several public gardens were opened beginning in the 1730s, presenting open-air concerts during the summer and charging admission sufficiently modest that, according to a contemporary 1786 account:

> There were last night above 6000 persons present, among them some of the first people in the kingdom, but as is always the case at Vauxhall, it was a *melange*; the cit and the courtier jostled each other with the usual familiarity; the half guinea was no repellant to the middling order; John Bull loves to shoulder his superiors in rank . . . and where he pays as much for admission, he never considers them to be more than his equals [quoted in McVeigh (1993, p. 41)].

In Vienna during the early decades of the 19th century a counter-part to Vauxhall Gardens emerged through ball rooms in which members of the middle classes waltzed to the music of Joseph Lanner and Johann Strauss Sr. At the peak of Strauss' popularity, these venues were expanded so that they could accommodate 50,000 participants simultaneously. By 1830, Strauss had 300 musicians under contract, whom he deployed in groups of 25 to play in the various ball rooms.[8]

In Paris another means of providing music to large numbers of listeners, "the monster concert", was pioneered by Hector Berlioz. Berlioz' first such concert, in 1844, was held in an industrial exhibition shed, attracting an audience of 8000 to hear music performed by a thousand instrumentalists and singers.[9] A later monster concert organized by Berlioz in 1855 attracted an audience estimated at 40,000. The pinnacle of 19th century monster concerts was probably reached in the Boston (Massachusetts) Peace Jubilee of 1872. For it, Johann Strauss Jr. was paid $100,000 plus traveling expenses to direct an orchestra of 2000 and a chorus of 20,000 performing Strauss compositions before audiences estimated at 100,000 persons [Fantel (1971, pp. 194–195)].

The performance of music at home provided a market for instruments and sheet music. Julia Moore (1987, pp. 50–64) punctures the myth that in music-loving Vienna during the time of Beethoven, there was a piano in every house, showing that the original source claimed a piano in the home of every educated family – a major difference in a time when higher education was rare. However, as education spread and prosperity increased, so also did the presence of pianos in homes. Using estimates by Ehrlich (1990, p. 222) and then US Census of Manufactures data, Figure 4 traces trends in new piano production in the United States from 1850 through 1930. Solid circles mark the years for which production estimates are available; the connecting lines are interpolated. Piano production did grow rapidly during the first seven decades, at an average rate of 4.3 percent per year. Scherer (2004, Chapter 2) estimates an income elasticity of piano

[8] See Fantel (1971, pp. 36 and 194–195).
[9] See Holoman (1989, pp. 308–311 and 476–477).

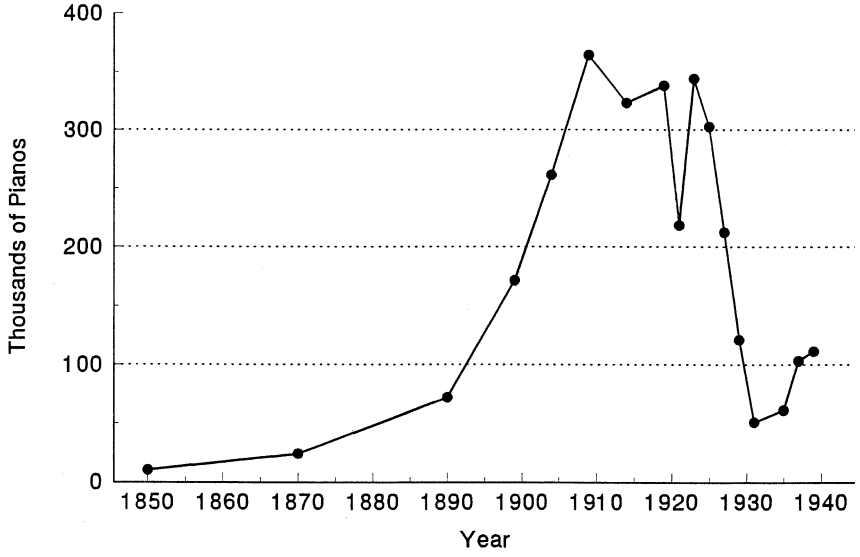

Figure 4. New piano production in the United States, 1850–1939.

demand over this period in the range of 3.16 to 4.32, depending upon the econometric specification used. Transforming the production data into cumulative (but depreciating) stocks, it is estimated that in 1850, the maximum home ownership rate (assuming no ownership by schools, churches, and taverns) was 5 percent. By 1923, it peaked at approximately 23 percent.

The steep decline in piano production during the mid-1920s, a time of extraordinary prosperity, cries out for explanation. (The earlier decline in 1921 was attributable to a sharp but brief recession.) The answer is simple: home radios entered the market in the early 1920s, followed by the introduction in 1924 of electrical phonographs with fidelity far superior to that of the acoustical phonographs previously in use. By 1927, 10 million American homes had radios, and a roughly equal number owned phonographs. A new different way of consuming music (and much else) in the home had appeared, changing radically the character of American family life and making music available every day to families that otherwise would have attended public concerts only rarely.

Electronics also changed the criteria for success as a musical performer. For vocalists in particular, power in an amplifier substituted for the previously essential vocal cord power.

During the 1920s it was believed that radio would allow wider dissemination of classical music, educating and upgrading public tastes. There was in fact an abundance of classical music programming. But especially in the United States, where radio transmitters were more dependent upon advertising than were the publicly-owned stations of Europe, sponsors soon found that broadcasting popular music was more effective in attracting the mass audiences they sought. The weekly Guy Lombardo show was

an early success beginning in 1928. By the late 1930s, the Lucky Strike Hit Parade, which offered renditions of the week's ten best-selling tunes, drew one of the largest radio audiences. As additional channels became available with the introduction of FM broadcasting following World War II, radio stations began to specialize in the content provided. Among the nearly five thousand US stations specializing in music broadcasts during 1994, the largest number (2642) emphasized country music – many, to be sure, in remote rural areas with small populations. There were 44 classical and fine arts specialists [*World Almanac* (1999, p. 186)].

Phonograph records and later compact disks also tapped mass markets for all kinds of music. The first year in which more than one billion musical recordings (including a relatively new genre, music video tapes) were sold in the United States was 1994. In that year, rock and roll music, which achieved popularity in the 1950s, led the market with 35.1 percent of unit sales, country music was second at 16.3 percent, and "pop" music placed third at 10.3 percent. Classical music records had a 3.7 percent share [*World Almanac* (1999, pp. 187–188)]. The share of classical record sales declined over the years, e.g., from 25 percent in 1950 and 5 percent in 1980, in part because each new record must compete with the established repertoire accumulated over three centuries, much of which had already found its way into record buyers' libraries.[10] In the more popular forms of music, the life span of the typical new composition is short, but there is a constant proliferation of new varieties seeking to differentiate themselves from previously recorded tunes.

The decline in classical music market shares parallels another more ominous alleged trend – the "graying" (i.e., aging) of audiences for live classical music performances, combined with a tendency for music directors to force upon audiences *avant garde* music appreciated by few.[11] However, a 1997 survey yielded optimistic signs [US Bureau of the Census (1999, p. 275)]. On average, 16 percent of the surveyed Americans had attended at least one classical music performance during the preceding year. The highest attendance rate by age category – 20 percent – was for persons 45 to 54 years old. Respondents in the 18–24 year old category, however, had the same 16 percent rate as the entire population, suggesting a potential for future audience-building. The lowest (11 percent) rate was for persons 25 to 34 years old. Not surprisingly, attendance at live classical music performances rises with income per capita and education, reaching maxima of 35 percent for those with annual incomes above $100,000 and 45 percent for persons who have attended graduate school.

The ability of musical composers and performers conveniently to reach a market encompassing the entire world intensified a phenomenon already evident three centuries earlier: superstardom.[12] At the outset of the 18th century, the leading musical superstars were castrati singers, who were in demand throughout western Europe and who

[10] See Arnold (1997).
[11] See, e.g., Holland (2003).
[12] See especially Rosen (1981) and Hamlen (1991).

traveled to wherever the rewards were highest. Before he retired to Spain and became chamber musician and confidential advisor on matters of state to Kings Philip V and Ferdinand VI, castrato Farinelli (whose given name was Carlo Broschi) earned £5000 during the 1735–1736 opera season in London, the most lucrative market, at a time when English building craftsmen averaged £30 per year.[13] A century later Niccolò Paganini, considered the most brilliant violinist of all time, netted £10,200 from six concerts in London after a spectacularly successful tour through Continental Europe. The most successful classical music superstars of the late 20th century were the Three Tenors – José Carreras, Plácido Domingo, and Luciano Pavarotti. Their concert during the 1994 World Cup football championship games in Los Angeles attracted a "live" audience of 56,000 persons, was broadcast throughout the world on television, and yielded record sales of some 9 million units. For a follow-on concert at the 1998 World Cup playoffs in Paris, the Three Tenors received an advance payment against anticipated broadcast and record sales royalties of $18 million. Their receipts paled, however, in comparison to those of the most successful popular music stars. The best-selling musical record of all time is said to be Michael Jackson's album, "Thriller", which from its launch date in 1992 achieved sales of 46 million copies. In 2002, Jackson's accumulated financial net worth was estimated to be in the range of $250 to 350 million. But by that time Jackson's reception from the public was fading visibly. Similar popularity declines befell most superstars during the heyday of classical music composition – that is, in the 18th and 19th centuries. But Jackson, unlike his golden-throated predecessor Farinelli, is unlikely to find a second career as advisor to national sovereigns. In that sense too, conditions change.

References

American Federation of Musicians of the United States and Canada (2003). Wage Scales and Conditions in the Symphony Orchestra. New York.

Arnold, D. (1997). PolyGram Classics, Case Study 9-598-074. Harvard Business School, Boston.

Barbier, P. (1996). The World of the Castrati. Souvenir Press, London.

Baumol, W.J., Baumol, H. (1994). "On the economics of musical composition in Mozart's Vienna". Journal of Cultural Economics 18, 171–198.

Benyovszky, K. (1934). J.N. Hummel: Der Mensch und Künstler. Eos, Bratislava.

Berlioz, H. (1966). Memoirs of Hector Berlioz from 1803 to 1865. Dover, New York. Edited by E. Newmann; translated by R. Holmes and E. Holmes.

Bianconi, L., Pestelli, G. (Eds.) (1998). Opera Production and Its Resources. University of Chicago Press, Chicago.

Blum, J. (1978). The End of the Old Order in Rural Europe. Princeton University Press, Princeton.

Delon, M. (Ed.) (2001). Encyclopedia of the Enlightenment. Fitzroy Dearborn, Chicago.

Ehrlich, C. (1990). The Piano: A History, rev. ed. Clarendon Press, Oxford.

Elias, N. (1969). Die höfische Gesellschaft. Luchterhand, Darmstadt.

Elias, N. (1991). Mozart: Zur Soziologie eines Genies. Suhrkamp, Frankfurt.

[13] See Barbier (1996).

Fantel, H. (1971). Johann Strauss: Father and Son and Their Era. David & Charles, Newton Abbott, UK.
Fiedler, J. (2001). Molto Agitato: The Mayhem behind the Music at the Metropolitan Opera. Doubleday, New York.
Hamlen, W.A. (1991). "Superstardom in popular music: Empirical evidence". Review of Economics and Statistics 73, 729–733.
Haloman, D.K. (1989). Berlioz: A Musical Biography of the Creative Genius of the Romantic Age. Harvard University Press, Cambridge.
Holland, B. (2003). "How to kill orchestras". New York Times, June 28, 2003, Section 2, pp. 1 and 33.
McVeigh, S. (1993). Concert Life in London from Mozart to Haydn. Cambridge University Press, Cambridge.
Moore, J.V. (1987). Beethoven and Musical Economics. Ph.D. Dissertation. University of Illinois, Urbana-Champaign.
Pohlmann, H. (1962). Die Frühgeschichte des musikalischen Urheberrechts. Bärenreiter, Kassel.
Raynor, H. (1972). A Social History of Music from the Middle Ages to Beethoven. Schocken, New York.
Rosen, S. (1981). "The economics of superstars". Journal of Political Economy 71, 845–857.
Rosselli, J. (1984). The Opera Industry in Italy from Cimarosa to Verdi. Cambridge University Press, Cambridge.
Sadie, S. (Ed.) (1980). The New Grove Dictionary of Music & Musicians, 20 volumes. Macmillan, New York.
Scherer, F.M. (2004). Quarter Notes and Bank Notes: The Economics of Music Composition in the 18th and 19th Centuries. Princeton University Press, Princeton.
US Bureau of the Census (1960). Historical Statistics of the United States: Colonial Times to 1957. US Government Printing Office, Washington.
US Bureau of the Census (1999). Statistical Abstract of the United States. US Government Printing Office, Washington.
World Almanac and Book of Facts: 2000 (1999). World Almanac Books, Mahwah, NJ.