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Sonic City: The Evolving Economic Geography of the Music Industry

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Abstract

Our research tracks the location of musicians and music establishments in U.S. regions from 1970 to 2004. We find that the music industry has become significantly more concentrated over time. New York and Los Angeles remain dominant locations, with Nashville emerging as a third major center. This reflects the economic and artistic advantages of large markets. We also find evidence of the persistence of musicians and music scenes in some smaller locations throughout the United States. This reflects demand for music in some small locations with more affluent, higher-human capital populations, location-specific assets, and technological changes that have lowered the costs for producing, distributing, and consuming music across locations.

Keywords

music, economic geography, scenes, clusters, Nashville

Introduction

In 2005, one of the most significant rock musicians of the past decade, Jack White, founder of the legendary White Stripes, relocated his newest band and recording project, The Raconteurs, from Detroit to Nashville (*USA Today* 2006). Detroit has one of the most legendary rock music scenes around because of its status as the home of innovative and highly influential rock bands like The MC5 and The Stooges, as well as Motown, techno, and other musical styles—a robust pool of musical and business talent. White himself hails from Detroit and built the White Stripes' sound and brand on that city's musical legacy. The three other musicians in The Raconteurs are all originally from the Rustbelt—singer, guitarist, and songwriter Brendan Benson is White's long-time associate from Detroit, while drummer Patrick Keeler and bass player Jack Lawrence are from a Cincinnati band, The Greenhornes. The question this article asks is: what factors and forces underpin this kind of relocation? Students of business location might say costs—perhaps Nashville offers a less expensive place to produce and distribute music. Economic geographers would suggest that Nashville might offer location-specific advantages, such as the clustering of music-related businesses and talent that would improve the productivity and quality of music made there. Or perhaps this shift is aligned with the more general shift of population and economic activity to the Sunbelt noted by demographers and regional scientists. The point is that while musicians can come from anywhere, they migrate over time. And we can expect their migration to result in an uneven distribution of musicians, with some locations accumulating agglomerations of musicians and music businesses and others losing them.

Conceptually, the economic geography of the music industry is shaped by two major countervailing forces. On one hand, there are good reasons for the location of musicians to spread geographically. Musicians, like other artists, are somewhat unique as economic actors, in that they do not depend on their locations for physical resources or large-scale production complexes. Successful musicians tour and travel to perform, and their location decisions are less constrained by physical assets. Furthermore, many today believe that with the rise of the Internet, social media, and digital distribution of musical content, musicians and the music industry have little reason left to concentrate in geographic locations and can locate more or less wherever they want, led at times by lifestyle considerations (Gibson 2002).

On the other hand, there are opposing forces that cause musicians and the music industry to concentrate and cluster. Commercial success in music is tied to audience size. Large cities and metropolitan areas offer access to a larger and more diverse set of potential consumers (Ellis and Beresford

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1994). Furthermore, musicians show a tendency to concentrate in geographical creative centers referred to as "scenes" (DiMaggio 1987; Silver, Clark, and Rothfield 2005; Currid 2007). Historians have long noted the tendency of musicians and other artists to cluster in colonies in search of inspiration, mutual learning, and apprentice experiences (Lubbren 2001). The term "music scene" was originally used to describe the geographic concentrations of specific kinds of musical genres that evolved in mid-twentieth-century musical centers like New Orleans jazz, Nashville country, Memphis soul, Detroit Motown, and Chicago blues. Economists and geographers have long noted the advantages that come from the agglomeration and clustering of certain kinds of economic activity (Marshall 1890; Jacobs 1969; Lucas 1988; Glaeser et al. 1992; Florida 2002). Caves (2002) shows that creative industries, including music, are defined by intangible products that are idiosyncratic and for which demand is impossible to determine in advance. Thus they benefit substantially from geographic co-location. Scott (2000) and Currid (2007) note that dense production agglomerations are a key characteristic of originality and innovation in culture-based industries. Connell and Gibson (2003) note that the presence of these opposing forces of concentration and dispersal is not a new phenomenon: much "traditional" folk music is linked to a place, yet is also the product of migrations.

While the concept of the "music scene" has been defined several ways in the literature (Cohen 1999), we see them as geographic locations that bring together musical and business talent (e.g., agents, managers, taste-makers, gate-keepers, critics, and sophisticated consumers) across social networks and physical space (neighborhoods, communities, clubs, music stores, recording studios, and venues). In our view, a music scene is a geographically delimited market in a microcosm rooted in location.

Our research examines the changing economic geography of the music industry. It does so empirically, tracking the location of musicians and music groups from 1970 to 2004 in thirty-one large U.S. metropolitan areas, along with a detailed cross-sectional analysis of music employment and music-related business establishments of U.S. core based statistical areas (CBSAs) for 2004.

The remainder of this article is organized as follows. The next section outlines the theory and concepts around which we structure our analysis. The third part describes our data and methodology. The fourth section outlines our empirical findings—providing a series of tables and figures on the geography of music over this time period—and discusses the implications of our findings for the economic and social production of music broadly. The fifth section outlines our conclusions.

Theory and Concepts

Music has been a defining element of society and culture since time immemorial. It continues to play a deep role in modern society and to be a defining element of both high and low culture alike. Since the emergence of uniquely American styles of popular music in the late nineteenth century, music has been a key contributor to and informer of the zeitgeist and mood (Vaultier 2000). Music has played a major role in spurring technological innovation from the phonograph and radio to early television, cable television, video games, the Internet, social media, cellular phones, and the iPod (Tschmuck 2006). Music also plays an increasingly significant role in the economy. It is a significant segment of the entertainment industry and some of the wealthiest and most influential people in society are musicians.

Despite its importance to culture, society, and economics, there was, until recently, a curious lack of serious scholarship around popular music and its larger social, economic, and spatial context. Kong (1995) points out that the neglect of popular music and popular culture in general by some scholars results from a historical bias in favor of so-called "elite" culture. In recent years, however, there has emerged a robust series of literatures on the geography of popular music (Cohen 1999; Scott 1999; Jones 2002; Connell and Gibson 2003; Jeffri 2003; Madden 2004; Gibson 2005; Kong 1995; Hudson 2006; Watson 2008; Hracs 2008) and the effects of digitization (Leyshon 2001; Jones 2002; Leyshon et al. 2005), alongside broader literatures on the economics of creative industries (especially Caves [2002]), the sociology of cultural production (DiMaggio 1987; Mark 2003; Molotch 2003; Clark 2004; Bennett and Peterson 2004; Silver, Clark, and Rothfield 2005; Currid 2007) and on the geography of innovation and creativity (Hall 1998; Scott 2000; Florida 2002; Anderson 2006; Markusen 2006; Currid 2007).

Musicians have long been drawn to the large markets and opportunities that cities offer. Hall (1998) notes the rise of Paris, Vienna, and Berlin as centers for musical creativity and creative production alongside innovation more generally. Grana (1964) shows how the transition from feudalism to capitalism shifted financial support for music and the arts from the monarchy to the new bourgeoisie. The major markets for composers and musical talent shifted to large commercial centers such as London, Vienna, Berlin, Paris, and Milan (Hall 1998). Historically, major cities and metropolitan areas have not necessarily been the generators of the musical innovation—rather, they have played a more important role in commercializing and popularizing music that may have originally emerged elsewhere.

Much of the innovation in popular music in the twentieth century was derived from the musical traditions of the poor, especially African Americans, who migrated from rural environments to certain urban cities which then became the centers for those musical forms. The crossroads music scenes in cities like New Orleans, Memphis, Detroit, Chicago, and elsewhere served as mechanisms for bringing together rural folk and blues with commercial interests and actors (Ellis and Beresford 1994). Cities and regions thus provide the

diversity of people and the institutional and social infrastructure required to commercialize cultural products like music. Yet even if the kernel of musical creativity is not generated in a particular location, it may, over time, flow to that place. Thus, cities contain the key elements for appropriating and commercializing that musical creativity.

The phenomenon of clustering in the music industry is typically referred to as a "music scene," as noted earlier, and follows a historical tendency of artists to form medium-based clusters or colonies (Mark 1998). The term "music scene" originally emerged to describe the musical genres associated with mid-twentieth-century crossroads music locations that brought migrating, largely rural, folk- and blues-based musical talent to major cities and in contact with larger audiences, radio stations, commercial venues, recording studios, agents, producers, and music entrepreneurs. Examples of this include the rise of Memphis as a major center for blues, soul, rockabilly, and rock-and-roll; Chicago for blues; Detroit for Motown soul and rock; and Nashville for country. Later decades saw the rise of independent music scenes in urban centers with larger concentrations of highly educated populations such as San Francisco in the mid-1960s, Seattle with grunge, and more recently, Austin, Minneapolis, and Omaha.

Music scenes are not only where music is produced but also where taste and genre are derived. DiMaggio (1987) notes that scenes involve consumers of art and culture—who shape tastes and imbue it with social context—as well as direct producers. Bennett and Peterson (2004) define music scenes as "the context in which clusters of producers, musicians, and fans collectively share their common musical tastes and collectively distinguish themselves from others." Silver, Clark, and Rothfield (2005) add that scenes are "modes of organizing cultural production and consumption" that "foster certain shared values and tastes, certain ways of relating to one another and legitimating what one is doing or not doing." Mark (2003) notes that socialization in some measure determines musical preferences, that people within niche groups are more likely to have certain preferences than others simply because of their associations, and that probability and duration of exposure and time are required to become a high-level consumer of music. These networks arise from homophilistic tendencies among individuals. As Currid (2007) notes, scenes arise as communities and subcultures focus on particular niches—such as folk, rock, R&B, funk, hip-hop, indie, and so on—clustered around similarly interested producers, specialized gatekeepers, tastemakers, and audiences. Music is thus comprised of many different genres and subgenres that carve out specialized niches in a highly fragmented market. In this way, many different scenes exist at any one time and these scenes tend to define themselves and cluster in specific geographic locations.

Geographers and economists have long noted the tendency for certain types of economic activity to cluster (Marshall 1890). Jacobs (1969) initially identified the way that cities bring together diverse groups of human talent and spur innovation. Lucas (1988) later formalized these insights, specifying the role played by human capital externalities in economic development. A large number of studies have identified the tendency for innovation to occur in cities and result preferentially from knowledge spillovers between sectors (Glaeser et al. 1992; Saxenian 1994; Florida 2002).

Caves (2002) provides an economic theory for the clustering of creative industries, including music. These industries, he argues, are defined by intangible products that are idiosyncratic and for which demand is impossible to determine in advance. Such industries benefit from a geographically concentrated economic structure that includes cultural producers, agents, gate-keepers and other market actors. Scott (2000) notes that dense production agglomerations are a key characteristic of originality and innovation in culture industries. Markusen (2004) has noted the specialization of creative activity across locations, which she has dubbed the "distinctive city." Currid (2007) shows how venues, clubs, recording studios, and performance spaces act as physical conduits for economic and social relationships. In a detailed historical examination of technological innovation in the music industry, Tschmuck (2006) notes that major innovations in the production and dissemination of music tend to open up new markets for musical styles and genres. Following Olson (1982, 1983) who notes the tendency of older dominant locations to become sclerotic and for new industries and economic actors to geographically shift to new locations, we can expect that major shifts in music technology would result in a similar shift to new geographic centers (also see Leyshon [2001]).

Location also plays a role in the physical distribution of music, where it is central to giving consumers and markets access to cultural goods (Hirsch 1972; Walker 2004; Entwistle 2006). New musical forms and innovations have to be experienced and evaluated "live" and thus proximity to audience as well as gatekeepers and taste-makers is central. Place itself is an important component. This is what Molotch (2002) terms "place in product"—the commercial value of producing in a particular city or location. As Currid (2007) notes, place affirms the legitimacy and value of a cultural good and the artist, designer, or musician who created it. In the parlance of contemporary capitalism, place helps to brand music along with other cultural goods.

While much geographic scholarship on music notes the strong effects of these concentrating forces, others have suggested that there may be reasons to expect some decentralization and dispersal of musicians and the music industry. Connell and Gibson (2003) detail how the isolation of smaller, "off the beaten track" locations and working-class communities can help them to develop unique and innovative musical styles. Anderson (2006) notes that new technology is leading toward the greater dispersal of music production and consumption, taking the form of a "long tail" of smaller-scale, more distributed niche producers. One implication of his

argument is that the Internet enlarges the market for niche producers by eliminating geographic constraints on marketing and distribution.

There is a long literature on how the combination of new technology and globalization combine to make location less relevant. Cairncross (2001) predicts that location and distance will be overtaken by other factors in their importance to business. Jones (2002) points out that transactions are shifting from direct purchases at the cash register to transactions that indirectly engage the consumer, such as music licensing royalties. Friedman (2005) asserts that "the world is flat" and that location is far less of a constraint in our globalizing world. Zook's (2005) studies of the geography of the Internet detail how firms like eBay have enabled individuals and companies in remote locations to achieve success in markets they previously could not have reached.

Zook, however, also notes that new technology does not render geography meaningless—instead, it exhibits a "contradictory pattern" that connects certain people while excluding others. Leyshon (2001) agrees that the geographies of creativity, reproduction, distribution, and consumption are being reconfigured by the advent of faster communications networks, rather than rendered inconsequential. Jones (2002) points out that the global nature of the Internet has the potential to increase the centralization of control of mainstream music and of the ability to make or break artists. Florida (2005) and Florida, Gulden, and Mellander (2008) note a similar pattern of "spiky globalization" in their studies of the global distribution of economic activity.

Thus, in our view, the geography of the music industry is potentially shaped by two forces. On the one hand, the benefits of large markets and the nature of creative industries to cluster in scenes are likely to give rise to concentration and consolidation geographically. On the other hand, new technologies for musical production and distribution may cause some dispersal in the location of musicians and the music industry.

Data and Method

To better understand this, our research examines the changing economic geography of the music industry in the United States from 1970 to 2004. Our analysis spans several levels.

We conducted a time series analysis of the location of musicians and music employment from 1970 to 2004. The time-series data covers thirty-one major metropolitan areas for reasons of data availability. The data for 1970 comes from the National Endowment for the Arts (Ellis and Beresford 1994). We use these data because of their reliability and comparability and also because they cover the largest regions which are home to the lion's share of musicians. It is particularly difficult to reconstruct data on the location of musicians and musical groups because of the changing definition of metropolitan statistical areas (MSAs) and data suppression issues, especially for smaller MSAs. We defer to the NEA data because it provides greater fidelity in terms of data compatibility. We took considerable care to match the data for later time periods to these NEA data. The 2004 data are from U.S. County Business Patterns, the U.S. Census, and the Bureau of Labor Statistics. The 1970 data includes thirty-four metropolitan areas of residence for employed musicians and composers. Because of changes in MSA definitions over the intervening years, several of these early MSAs have been largely absorbed into other larger aggregations. We summed the county data to coincide as best as possible to the earlier definitions.

To increase the size of our data set and ensure broader regional coverage, we conducted a detailed cross-sectional analysis of the location of music employment and business establishments for 2004. These data cover musicians, musical groups, and music-related business establishments for all U.S. CBSAs. For this analysis, establishments are defined as businesses with employees in conformance with the definition provided in County Business Patterns. No accounting of musician sole proprietorships was made, though future studies may incorporate them to the extent that data is available. Music employment in this context for 2004 was defined as NAICS code 71113 (Musical Groups and Artists) and did not include separate data for composers and directors or NAICS 71115 (Independent Artists, Writers, and Performers). Our feeling is that the SIC to NAICS transition here in particular is not a major problem and we have done a reasonable job of matching.

We took considerable care to deal will issues of data reliability. Data suppression is always an issue when dealing with smaller locations. Employment and payroll data were withheld for between 67 and 85 percent of the 766 counties that reported having musical groups and artists. This is important as smaller places may have a greater abundance of musicians and thus make it empirically difficult to identify clusters outside of large urban areas. It may also overinflate the relative performance of certain places by distorting the denominator in the calculation of location quotients. Data was primarily withheld for small establishments. More than 70 percent (72 percent) of the establishments (or groups) in the data have four or fewer employees. To deal with data suppression, music employment was estimated by multiplying the number of establishments in each size category by the midpoint of the size category for establishments with fewer than one thousand employees. Only New York reported an establishment with one thousand or more employees, and in this case a figure of one thousand was used. This yielded an estimate of total music employment of 45,464, which is not markedly different (107 percent) than the reported national total of 42,569.

It has long been noted that official data may miscount musicians (see, for example, Throsby [2001] and Karttunen [2001]). Many participate in some paid forms of music even

Table 1. Music Employment, 2004

Region	Location Quotient	Total Music Occupations	% of National Total Music Employment
Nashville-Davidson-Murfreesboro, TN	3.81	1,350	2.11
Honolulu, HI	3.50	730	1.14
New York-Northern New Jersey-Long Island, NY-NJ-PA	2.66	10,560	16.54
Billings, MT	2.10	80	0.13
Los Angeles-Long Beach-Santa Ana, CA	2.02	5,470	8.57
Las Vegas-Paradise, NV	1.98	830	1.30
Rochester, NY	1.89	460	0.72
Syracuse, NY	1.86	280	0.44
Salinas, CA	1.83	140	0.22
San Francisco-Oakland-Fremont, CA	1.77	1,700	2.66
Sarasota-Bradenton-Venice, FL	1.77	250	0.39
Albany-Schenectady-Troy, NY	1.75	370	0.58
Portland-Vancouver-Beaverton, OR-WA	1.72	810	1.27
Seattle-Tacoma-Bellevue, WA	1.36	1,040	1.63
Kingston, NY	1.34	40	0.06
Santa Barbara-Santa Maria, CA	1.29	110	0.17
Pittsburgh, PA	1.17	630	0.99
Santa Fe, NM	1.09	30	0.05
San Diego-Carlsbad-San Marcos, CA	1.07	670	1.05
Riverside-San Bernardino-Ontario, CA	1.06	630	0.99

Source: Bureau of Labor Statistics.
Note: Includes musicians and singers; composer and directors; music repair and tuners.

though it is not their major occupation. Musicians are also likely to earn income more unevenly than those in other occupations, and thus are less likely to be employed as musicians at the time of data-gathering (Gibson, Murphy, and Freestone 2002). Self-reported data can exhibit the opposite problem, that of overcounting, when individuals who fail to meet the standard criteria for professional employment identify themselves to be working musicians.

Our perspective is that data on employed musicians and on music establishments are important and useful indicators of the economic geography. We employ all such data while recognizing and noting their limitations.

Findings

We now turn to the key findings of our analysis. Table 1 provides detailed data on music employment and music location quotients by major metro for 2004. Table 2 provides historical perspective, showing the number of musicians, density of musicians, and location quotients for musicians for thirty-one major metropolitan areas from 1970 to 2004. Our analysis suggests five key findings.

First, the data suggest that the music industry remains spatially concentrated and, if anything, has grown more concentrated over time. These thirty-one metros represent a large proportion of musical groups and artists. In fact, the proportion of musicians located in the thirty-one regions increased from 52.5 percent in 1970 to 63.5 percent in 2004. In 1990, it took thirty of the top thirty-one of the 1970 major metros to contain half of all the musicians in the country. In 2004, that same share was exceeded by the top fourteen of the major metros.

The county data reinforces this trend. Only 766 of 3,141 total counties report musical groups and artists. Thus, only 24 percent of counties host working or established musical groups and artists. Perhaps more striking, half of all working musicians in the country live in just fifty of more than 3,100 U.S. counties. Clearly the music industry remains geographically concentrated and appears to be growing even more so over time. New York and Los Angeles remain the two leading locations for music employment and the music industry, playing twin roles as epicenters of the music and entertainment industries. When we examined the firm size distribution for the seven largest music industry centers, we found that New York and Los Angeles had a significantly higher percentage of large establishments than other metros.

Second, the data indicate the rise of Nashville as a leading—if not *the* leading—music scene in the country. In 1970, Nashville was only a minor center for country music. By 2004, only New York and Los Angeles, both huge cities, housed a greater number of musicians. Nashville's rise is even more impressive when you look at its location quotient. In 1970,

Table 2. Trends in Music Employment, Rank Order for 31 Major Regions, 1970-2004

Metropolitan Area	Location Quotient		No. of Musicians		Musicians per Square Mile	
	2004	1970	2004	1970	2004	1970
Nashville	1	10	3	19	19	31
Milwaukee	2	29	11	22	13	21
New York	3	21	1	1	3	4
San Francisco	4	4	4	6	1	1
Pittsburgh	5	8	14	14	5	7
Los Angeles	6	5	2	2	11	11
New Orleans	7	27	25	28	27	25
Las Vegas	8	1	18	25	12	15
Minneapolis	9	3	7	9	4	5
Cleveland	10	23	12	16	9	17
Portland	11	14	19	30	18	22
Buffalo	12	18	29	28	17	10
Boston	13	7	6	7	2	3
Baltimore	14	22	16	11	14	14
Seattle	15	9	9	15	6	16
Memphis	16	30	29	31	29	27
St. Louis	17	16	15	17	7	12
Chicago	18	28	5	3	10	9
Cincinnati	19	15	27	23	23	18
Denver	20	13	20	20	20	19
Detroit	21	19	10	5	16	13
Philadelphia	22	24	8	4	15	8
San Diego	23	26	23	21	28	29
Kansas City	24	17	28	24	31	30
Phoenix	25	25	21	27	26	26
Dallas	26	20	13	13	24	24
Atlanta	27	12	17	18	22	23
Houston	28	31	22	12	30	28
Tampa	29	6	31	26	25	20
Miami	30	2	24	10	8	2
Washington, DC	31	11	26	8	21	6

Source: U.S. County Business Patterns and National Endowment for the Arts.

Nashville was not even among the top five regions as ranked by their music industry location quotient. By 2004 it was the national leader, with a location quotient nearly four times the national average. The extent of its growth was so significant that when we charted the growth in location quotients between 1970 and 2004, as shown in figure 1, Nashville was the *only one* that registered positive growth. It had, in effect, sucked up all the growth in the industry by expanding its reach from country to all musical genres, particularly rock and pop. Today it is home to much of the world's best studio talent and has eclipsed even New York and Los Angeles as the place for music writing, recording, and publishing.

The story of Nashville's rise as a music center illustrates the cumulative, location-specific nature of the process of the evolution of a music scene. Nashville's evolution, according to various studies, begins with the institutionalization of the *Grand Ole Opry*, which originally emerged as one of many weekly "barn dance" music performance radio shows of the 1920s (Lomax 1985; Cusic 1994; Daley 1998; Malone 2002; Connell and Gibson 2003). As the style of music it was known for evolved and became known as "country," the show benefited from its originating station's powerful "clear channel" signal which reached across much of North America at night. The *Opry* brand name grew, outlasting programs from Chicago, Kentucky, and elsewhere. While Nashville was not yet a major center for recording studios or record labels, it benefited from its close proximity to the South, Midwest, and Texas, and from a welcoming environment that respected the country genre more than other music centers. The more established centers of New York, Los Angeles, and Chicago did not possess these assets.

When the country sound became more widely popular in the postwar period, New York-based labels increasingly looked to Nashville for talent to record. Several key executives at Decca and RCA Victor invested significant time and resources in the city, and local entrepreneurs capitalized on the genre's success by founding publishing companies, recording studios, and booking agencies. Many of these entrepreneurs were connected with the *Grand Ole Opry* show, and when a dispute arose over conflicts of interest in 1955, key figures left the *Opry* organization and struck out to start their own firms. The resulting proliferation of booking agencies, music publishing houses, and recording studios attracted musicians, songwriters, and producers from Memphis, Cincinnati, and across the South and Texas, including several exceptional successes.

Nashville's music industry developed in a concentrated area of several blocks known as Music Row where every major label, several hundred smaller labels, and large numbers of music publishers, producers, studios, songwriters, agents, managers, and publicists are now located. This tight-knit agglomeration lowered transportation and talent-seeking costs, and led to a significant diversity of studios specializing in different types of music recording. By the 1970s and 80s, this unique diversity of choice led to Nashville's increased popularity with successful artists from a broader range of genres, from Paul McCartney (rock) who appreciated the wealth of studio expertise within such a small area, to Elvis Costello (punk rock/new wave) who appreciated the region's connections to the early days of rock'n'roll, including his namesake. Many were attracted by Nashville's slower pace of life and lack of issues related to crime, traffic, and pollution relative to the competing centers offering a similar range of services. The Nashville area also acted to strategically reinforce the notion of a characteristic regional sound (Connell and Gibson 2003).

Specialized film and video companies grew up around the industry to service the music video market. In 2006, the music industry was estimated to directly employ 19,437 people with total earnings of $722 million, with music-related tourism supporting another 14,995 jobs (Raines and Brown 2006).

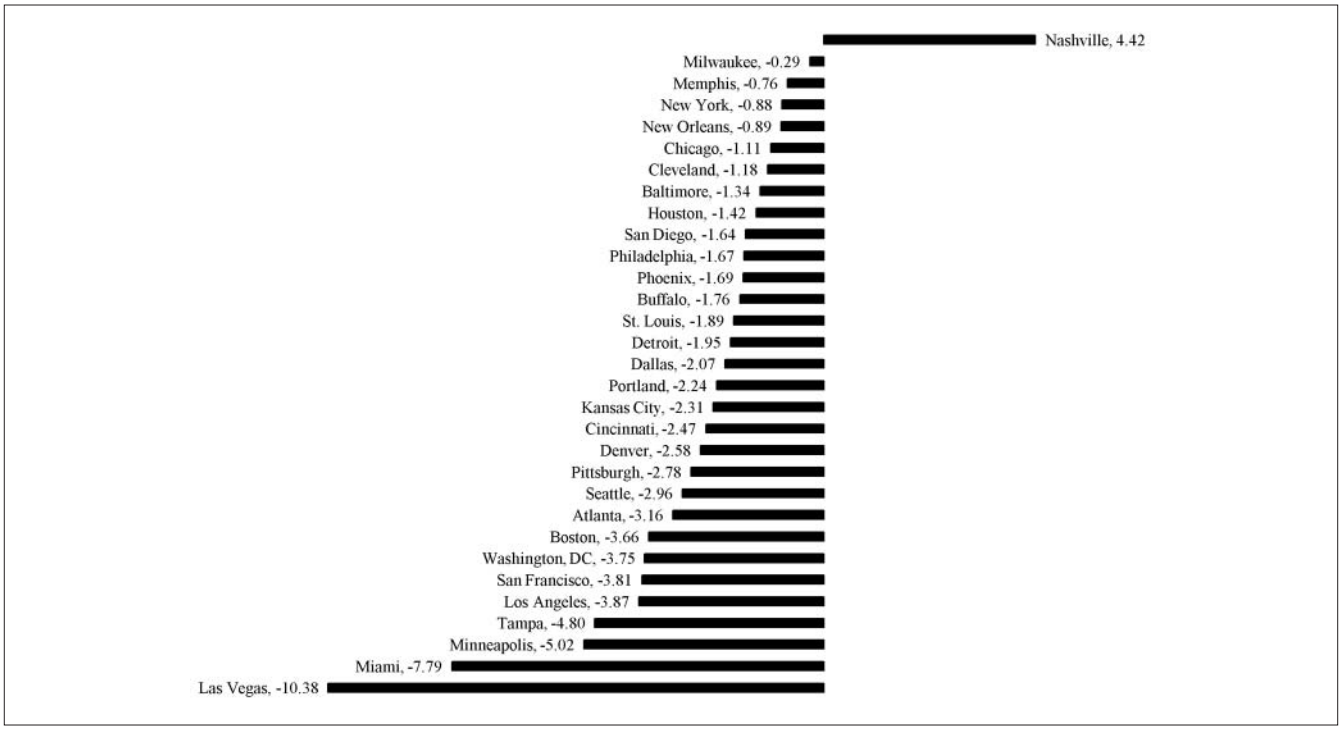

Figure 1. Absolute change in location quotient, 1970-2004
Source: U.S. County Business Patterns and National Endowment for the Arts.

Another study found that in 2004, Nashville boasted almost one-and-a-half times as many professional musicians as Chicago (Rothfield et al. 2006), despite having less than one-sixth the population.

In a manner similar to that which Saxenian (1994) has documented in Silicon Valley's high-technology industry, it appears Nashville provides a broad economic and social infrastructure that is drawing top musical talent across greater numbers of genres. And just like Silicon Valley consolidated its hold on the high-technology industry by generating new companies and attracting top talent and companies from elsewhere, a great deal of top musical talent like Jack White and his band is drawn to Nashville's musical industry infrastructure.

Third, the data indicate the relative stagnation and in some cases the decline of traditional crossroads music centers, such as Memphis, New Orleans, Detroit, and Chicago. As table 1 shows, none of them made the top twenty list for music employment location quotient. Turning to table 2—in 1970, New York, Los Angeles, Chicago, Philadelphia, and Detroit were the five largest centers for musicians. By 2004, two of the five were replaced, with Nashville and San Francisco replacing Philadelphia (which fell to eighth) and Detroit (which fell to tenth). Many of these regions lost population and jobs, reducing demand for music and musicians. Furthermore, the increasing concentration of musical opportunity and music production in New York, Los Angeles, and Nashville reduced the economic viability of these more regional music centers.

Fourth, the data show the persistence of musical talent and the music industry in tourist, resort, and vacation destinations like Las Vegas and Honolulu. Honolulu ranks second in music employment location quotient for 2004, while Las Vegas ranks sixth behind Los Angeles. Las Vegas, however, fell from first place in 1970 (based on our more limited thirty-one metropolitan area time-series data set). Miami has declined significantly as a location of music employment over this period.

This is consistent with the notion that tourist centers are able to "borrow size" via large volumes of temporary visitors with an increased propensity to spend on entertainment (Florida, Mellander, and Stolarick 2009). Indeed, Rothfield et al. (2006) find that Las Vegas features more musical artists and groups per thousand people (0.27) than Chicago (0.21), Seattle (0.23), Boston (0.22), or New Orleans (0.23).

Fifth, the data also show the persistence of robust musical centers in smaller metropolitan regions and counties. As table 1 shows, Billings, Montana ranks fourth in music employment location quotient in 2004. In addition, Rochester, Syracuse, and Kingston, New York; Salinas, California; Pittsburgh, Pennsylvania; and Santa Fe, New Mexico all rank in the top twenty, ahead of Chicago and other much larger metros. San Francisco and Seattle, with their long histories of musical creativity and independent music scenes, also rank among the top twenty.

We probe this further by turning to the data for CBSAs (both metropolitan and micropolitan). Figure 2 maps the

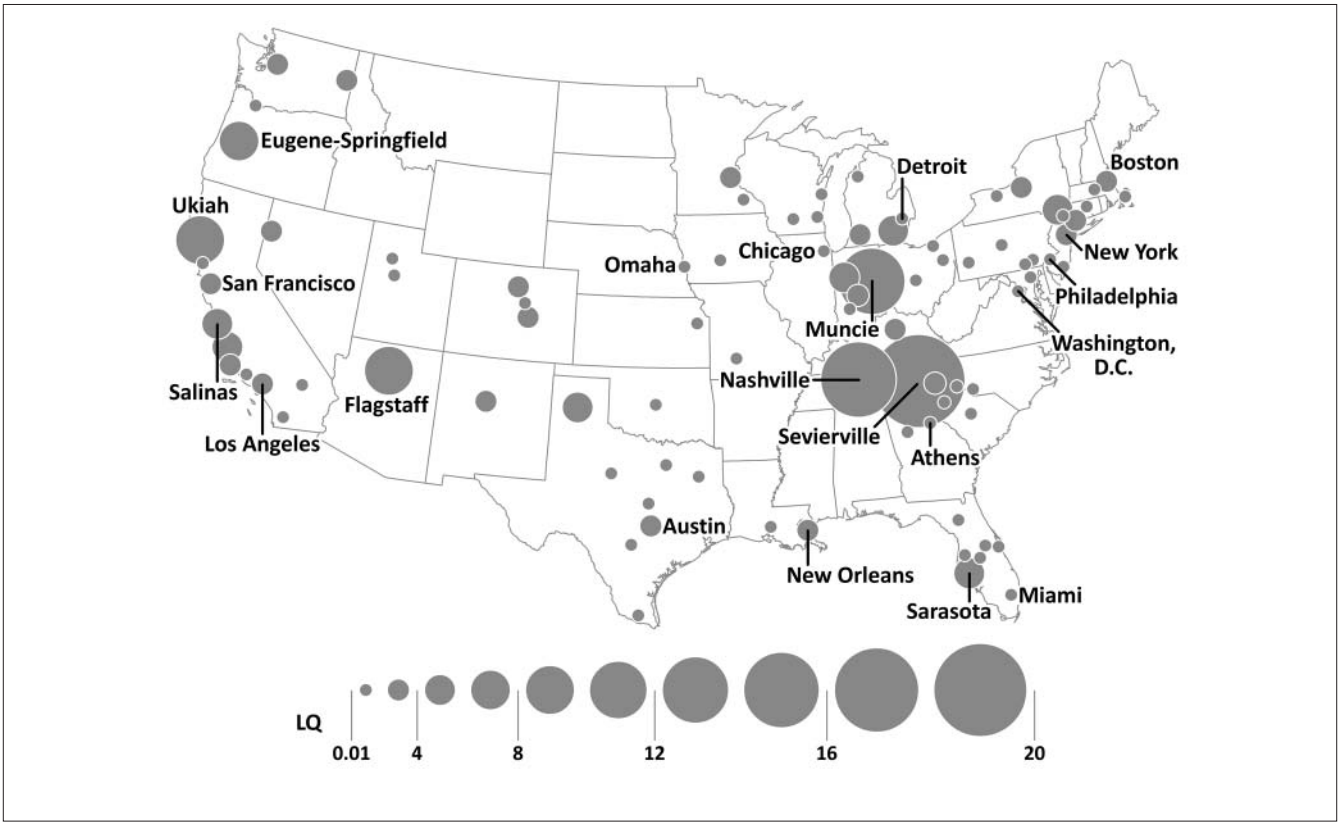

Figure 2. Location quotients for estimated music employment by core based statistical area, 2004
Source: U.S. County Business Patterns

location quotients for music employment in 2004, while figure 3 does the same for music establishments in 2004. Only CBSAs with nonzero location quotients are included.

As these data indicate, smaller and medium-size metropolitan areas such as Santa Fe and Portales, New Mexico; Sevierville, Tennessee; Muncie, Indiana; Salinas and Ukiah, California; Fort Payne, Alabama; Branson, Missouri; Carson City, Nevada; Flagstaff, Arizona; Billings, Montana; and Sarasota, Florida all have high location quotients for musicians. Indeed, many of the CBSAs with relatively high concentrations of music employment, musical groups, and music establishments are quite small, some are remote geographically, and a significant number can be regarded as ex-urban.

The smaller CBSAs with large concentrations of musicians appear to conform to three patterns. The first group is made up of places that are located in close proximity to larger CBSAs. Galesburg, Illinois, for example, is nearly equidistant from the substantial metropolitan areas of Moline-Davenport, IA-IL and Peoria, Illinois. Musicians may locate in such places to gain access to larger markets while taking on lower business and living costs.

A second pattern is locations which are in close proximity to large music venues and markets. Sevierville, Tennessee, for example, is home to the Dollywood theme park.

A third pattern involves locations which have seen the rise of independent or so-called "indie" music scenes. Indie scenes are a vast and complicated web of social networks across both the real and virtual worlds. Many of them have grown up around university and college towns that both produce and attract musical talent (sometime from larger locations) and also have large student and faculty populations, which increase demand for music. Some, like Athens, Georgia; Omaha, Nebraska; and Austin, Texas have significant recording capabilities and are home to significant indie labels and music festivals. Such indie scenes are located in a mix of large and small metros such as Austin; Omaha; Athens; Lawrence, Kansas; Bloomington, Indiana; Denton, Texas; Chapel Hill, North Carolina; and Murfreesboro, Tennessee. REM of Athens (home to the University of Georgia) is perhaps the best-known example of this phenomenon, but there are many more recent examples as well, such as the Dave Matthews Band of Charlottesville, Virginia (home to the University of Virginia) and Conor "Bright Eyes" Oberst of Omaha, Nebraska (home to eleven colleges and universities).

Smaller locations, generally speaking, benefit from digital production and distribution technology, which has made it easier for some musicians to locate outside major centers, and from the rise of independent music labels.

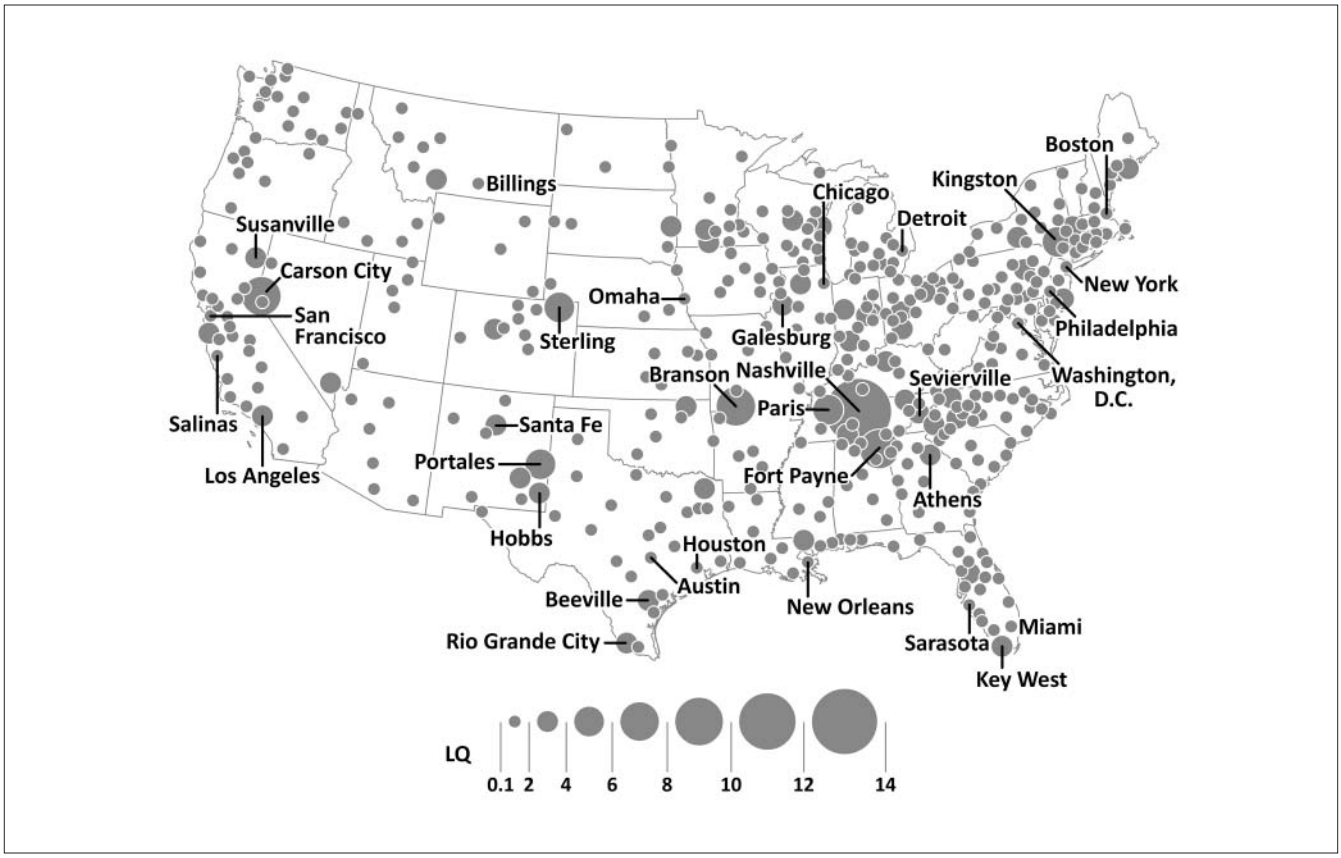

Figure 3. Location quotients for music establishments by core based statistical area, 2004
Source: U.S. County Business Patterns

Conclusions

Our research has examined the geography of the music industry and music scenes. We argued that the geography of the music industry is potentially shaped by two forces. On the one hand, musicians have very few obvious, physical constraints on their location. Furthermore, it is commonly thought that the rise of the Internet, social media, and digital distribution means that musicians should be increasingly able to locate wherever they want. On the other hand, the need to access large (and sophisticated) markets and the nature of music and creative industries to cluster in scenes suggests geographic concentration. Music scenes, as we define them, have overlapping and mutually reinforcing economic, social, and geographic components. They are geographic locations where the market, broadly defined, exists in microcosm, comprising producers and consumers, buyers and sellers, and all sorts of intermediaries, who interact socially as well as economically, and in a defined geographic space. The economic geography of the music industry, we argued, is shaped by the dynamic tension between these two forces.

Our research tracked the location of musicians, music groups and establishments, and of related businesses from 1970 to 2004 in thirty-one large U.S. metropolitan areas. We also conducted a detailed cross-sectional analysis for 2004 on the location of music employment and music-industry business establishments across a finer-grained geography.

Our analysis informs several key findings. We find greater concentration and consolidation of music employment and music-related business establishments, particularly the largest establishments, in New York and Los Angeles. This reflects their large markets and the trend toward concentration in the music industry. We also find evidence of the stagnation and decline of some traditional crossroads music centers, such as Memphis, New Orleans, and Detroit as their populations and economies have declined and the music industry has shifted to larger places.

At the same time, we find a modest countertrend toward dispersal of musicians and music scenes in a variety of other, smaller locations. These include: tourist locations like Las Vegas and Honolulu, smaller places that are in close proximity to major music centers, those with location-specific assets, and centers for independent music scenes. It appears that new technologies facilitate this trend to some degree, as low-cost digital distribution channels and social media are enabling

musicians to participate commercially from more remote locations outside the core centers. Certainly, the evolution of robust indie scenes in places like Athens, Georgia and Omaha, Nebraska show that concentrations of musicians can grow into broader infrastructure for musical production.

What stands out most from our analysis is the phenomenal rise of Nashville as a major center for the musical talent and the music industry. Once a small outpost for country music, by 2004 Nashville ranked alongside New York and Los Angeles as one of the dominant centers for musicians and musical groups. The extent of its growth was so significant that when we charted the growth in location quotients between 1970 and 2004, Nashville was the *only one* that registered positive growth.

To return to our opening anecdote, it was Jack White's desire to find a more welcoming environment in which to pursue a serious career as a rock composer, producer, and performer that led him to leave Detroit for Nashville. He had become familiar with Nashville's musical talent pool and infrastructure when he produced and performed on country legend Loretta Lynn's highly regarded *Van Lear Rose* album, recorded in Nashville and drawing on talent from the region. At the same time, the Detroit scene, which had fuelled the emergence of the White Stripes signature stripped-down rock sound, had become too one-dimensional and constraining. It did not offer the broad range of sounds, genres, and mix of talent available to White in Nashville. White also faced growing and at times public resentment by his local Detroit peers as his fame grew, including a much-publicized altercation with the lead singer of a group he had previously worked with, the Von Bondies. White himself explains the benefits of Nashville over Detroit this way:

> I couldn't breathe anymore in that scene. The musical environment in the South has always been supportive—that's where all the greatest music is from . . . There, you don't have to be ashamed of being ambitious, or to let on that you care.

He also noted that it was easier to "write hits" there (Scaggs 2008).

Taken together, these findings inform a more general conclusion. The music industry appears to be in the midst of a period of significant economic and spatial evolution, driven in part by ongoing changes in its underlying technology. As Tschmuck (2006) notes, major changes in musical technology tend to open up the social, cultural, and economic space for new genres and forms. Following Olson (1982, 1983), we believe that such shifts are biased against existing locations and in favor of new locations. The rise of sheet music, for example, enabled the concentration of musical production in New York City's Tin Pan Alley. The emergence of radio shattered the existing music monopoly and enabled the rise of independent crossroads music centers like Memphis and Detroit. The emergence of television and the modern entertainment industry shaped the rise of Los Angeles as a major musical center, surpassed only by New York. The cost pressures of the late twentieth and twenty-first centuries and the centralization of music infrastructure paved the way for the rise of Nashville in recent decades, a period over which it has, in effect, overtaken many of the functions once performed by those crossroads centers.

Over the course of the twentieth century, the geography of music has been distinguished by the spatial reallocation of the centers for creative musical production and for mass commercial distribution. Each technological advance has brought new markets and new centers for music employment and industry. While larger, incumbent regional centers have clearly had scale and scope advantages in music production and commercial distribution, they have suffered from inertia and inability to respond to new genres and sounds. This has intermittently enabled smaller locations with a constellation of talent and commercial interests willing to embrace new forms to gain a strategic advantage. It is this sort of economic space that enabled the rise of Nashville over the past two or three decades.

Music may be in the midst of a similar, if larger, discontinuity today. The Internet, low-cost high-fidelity recording and reproduction, digital technology, and social media have lowered the costs of recording and distribution in powerful ways. Our analysis already reveals the persistence of significant indie scenes in places like Omaha, Nebraska and viable music clusters in even smaller communities like Billings, Montana. This is broadly in line with the decentralizing effect of new technology noted by Anderson (2006) among others, but it more specifically comports with Zook (2005), who as we noted previously finds that rather than rendering geography meaningless, new technology exhibits a "contradictory pattern" that connects certain people and places while excluding others and Elberse (2008), who finds that the changes described by Anderson simultaneously enlarge the "fat head" of the tail. Thus, at the same time that powerful forces push toward economic consolidation and geographic concentration of music talent, enterprise, and infrastructure, significant counterforces are shaping some degree of geographic diffusion. It is important to note that this diffusion does not take the form of a random or ubiquitous spread of musicians, but rather takes shape around specific music scenes, in particular places frequently organized around a critical mass of talent in a particular genre or even subgenre.

Thus, the music industry is being shaped by this dynamic tension between geographic concentration and dispersion. On the one hand, we are seeing the consolidation of the already established music centers into an increasingly smaller group of production centers as markets narrow and new technological innovations begin to displace the previous commercial models. On the other, we are seeing the emergence of new genres and new places with strategic advantages of their own. For the foreseeable future, the geography of the music industry

will be shaped by the push and pull of these two powerful forces.

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