

The Arts:  
Not Just Artists (and vice versa):  
New Methodological Approaches towards  
Understanding the Economic Composition of Arts

Kevin Stolarick and Elizabeth Currid

Kevin Stolarick  
Research Director, The Martin Prosperity Institute  
Joseph L. Rotman School of Management  
University of Toronto  
MaRS Centre Heritage Building  
101 College Street, Suite 420  
Toronto, Ontario, Canada M5G 1L7  
Email: [Kevin.Stolarick@Rotman.Utoronto.Ca](mailto:Kevin.Stolarick@Rotman.Utoronto.Ca)  
v: 416.673.8580  
f: 416.673.8599

Elizabeth Currid  
Assistant Professor  
University of Southern California  
Ralph and Goldy Lewis Hall 301B  
Los Angeles, CA 90089-0626  
Email: [currid@usc.edu](mailto:currid@usc.edu)  
v: 213.740.4012  
f: 213.740.1801

## **The Arts: Not Just Artists (and vice versa): New Methodological Approaches towards Understanding the Economic Composition of Arts<sup>1</sup>**

### **Abstract**

*The arts have been seriously considered in scholarship and practice for their role in the economic development. Yet, efforts to capture the full contribution of the arts to regional economies prove difficult. Using a three-tiered data approach, we look at the relationship between artistic occupations and artistic industries on both the national and regional level. We then compare the thirty largest metro areas. To demonstrate the place-specific nature of the arts, we compare these findings to an in depth look at three regional economies: New York, Los Angeles and Chicago. We perform a series of correlation and variance tests using the Herfindahl Index to analyze the linkages between the presence of artistic industries and occupations. Over fifty percent of artists do not work in arts-related industries. Artistic industries tend to rely on a dense and complicated network of labor pools, many of which are “nonartistic”. “The arts” and artists are not necessarily the same thing.*

### **Introduction: The Arts in Economic Development**

Since the early 1990s, the arts have been seriously considered in scholarship and practice for their role in the economic development of the regions and cities in which they concentrate. There is no question that the arts, and more broadly cultural production, have been an important field of study in the social sciences since the turn of the 19th century (Veblen 1899; Simmel 1901; Robinson 1961; Blumer 1969). However, in more recent years, the arts have been looked at for their practical application in the development of place (Scott 2000, 2005; Molotch 1996, 2002; Markusen and Schrock 2006a, 2006b; Markusen et al. 2008; Currid 2006, 2007a). In the face of globalization and homogenization of the urban experience, a regional arts economic base is significant in establishing a region or city identity or what Markusen and Schrock (2006a) have called “distinction”.

---

<sup>1</sup> Acknowledgements: We would like to thank Ann Markusen, Richard Green and session participants at the North American Regional Science conference for helpful feedback and thoughts, which have greatly improved our manuscript. Dieter Kogler provided helpful suggestions. Any mistakes are our own.

The insertion of the arts into economic development has resulted in large scale tourism developments (Fainstein and Judd 1999; Strom 2002), efforts to use the arts as a redevelopment tool (Zukin 1989; Plaza 2006; Grodach and Loukaitou-Sideris 2007), and as a part of larger amenity schemes (Florida 2002a; Clark 2004; Glaeser et al. 2001). Other types of arts oriented economic development has tended to invest in large scale tourism and cultural “hard branding” (Evans 2003), using museums and corporate investments as a means to create a cultural milieu to lure visitors and new desirable residents (Sassen and Roost 1999; Strom 2002; Plaza 2006). Additionally, developers have sought to create the smaller art districts, which are viewed as important means for preserving local heritage and authenticity, that are attractive to high-skilled workers (Florida 2002a; Lloyd 2005; Carr and Servon 2007). Non-profit and advocacy organizations have made the case that the arts generate jobs and revenue in their own right (Americans for the Arts 2004; Wassell and DeNatale 1997; Keegan et al. 2005; Alliance for the Arts 2007; National Endowment for Science, Technology and the Arts 2008, among others).

Yet, efforts to capture the full contribution of the arts to regional economies prove difficult. First, from both a practitioner and scholarly approach, there are vast differences in the definition of the “arts” and what occupational and industrial categories ought to be included. Studies of the arts or “creative economy” range from including media (NESTA 2008; Markusen and Schrock 2006a), religion (Markusen et al. 2008), “taste-driven” industries (Currid 2007a); or grouping the arts as a part of the larger “creative class” (Florida 2002a). In addition, researchers tend to look at either industry or occupation data in their study of the arts. Some investigations focus on the arts industries (Scott 2005;

Keegan et al. 2006; Alliance for the Arts 2007; Otis/LAEDC 2007; Currid and Williams 2008), while other scholars have started using occupational categories as a measure of a region's artistic composition, an approach originally put forth by Thompson and Thompson (1985). Leading this effort are the studies by Markusen et al. (See Markusen and King 2003; Markusen et al. 2004; Markusen and Schrock 2006a, 2006b, among others) whereby both Census and Bureau of Labor Statistics (BLS) data at the occupational level have been employed to analyze the distribution of different types of artistic workers across various metro areas. Currid (2006) also incorporates the use of BLS occupational level data to test for regional competitive advantage from artistic occupational clusters. However, by picking either occupation or industry, scholars and practitioners limit their assessment of the full composition of a region's artistic economy. As Barbour and Markusen (2007) have pointed out, occupational and industrial structures do not "imply" one another. Further as Markusen et al. (2008) conclude in their analysis of three arts advocacy institutions, often policy agendas drive data selection and analysis, and choices between industry and occupational data, thus leading to different research outcomes. As the authors remark, "...differing cultural industrial and cultural occupational definitions produce different aggregate snapshots of the regional creative economy" (35). Renski et al.'s (2007) study of different data sets, i.e. value chain versus labor-based, produce remarkable and meaningful different results, which they conclude should be taken into account in policymaking. As they remark, "Our findings strongly suggest that a narrowly defined cluster analysis...may overlook important regional interindustry synergies, industry specializations and strengths and that may be the legitimate focus of cluster oriented economic development strategies" (382).

Despite the significant differences in approaches towards studying the arts, important findings remain consistent. First, the arts are producing viable contributions to their local and regional economies. Second, art composition is extraordinarily place-specific, and thus understanding the arts' impact requires region and city specific data. We argue that in order to measure the complex role of the arts in a regional economy, an integration of the methodological approaches must be employed enabling a deeper understanding of the arts as industries, as versatile skill sets and artists' skill linkages with other industries. Because cultural workers also tend to cross fertilize with other nonartistic industries, providing skills on an *ad hoc* basis (Markusen et al. 2004; Currid 2007a), producing "spillacrosses" (Stolarick and Florida 2007) or "crossover" contributions to more commercial sectors (Markusen et al. 2008), measuring the arts' contribution requires a many-tiered approach. Additionally, nonartistic occupations are also important to culture industries, and often artists are employed in cultural industries providing nonartistic work, e.g. the actor desperate to get a foot in the door who works as an usher for a theater company.

The consensus, pioneered by Markusen et al., has been that both occupations and industries must be analyzed and incorporated in order to fully grasp a region's artistic economic base and cultivate competitive advantage. We extend this approach by arguing that the most effective way to measure the arts' contribution to the regional economy is to examine how occupations are distributed among industries, to understand the variance of how occupations are employed in different industries, both artistic and non-artistic, and to examine the linkages (or lack thereof) between different artistic occupations and industries. We employ a multi-data research framework across the national and regional

level to understand the interaction between industry and occupation, By establishing a three-tiered approach using 2005 Bureau of Labor Statistics Occupational Employment Statistics, 2005 County Business Patterns and 2000 Census PUMS national-level data. The relationship between artistic occupations and artistic industries on both the national and regional level are analyzed. Because artistic industries and occupations tend to be located in metro areas, we compare the thirty largest metro areas. The derived findings are analyzed in more depth in the context of three regional economies, i.e. New York City, Los Angeles and Chicago, in order to demonstrate the place-specific nature of the arts. We found that over fifty percent of artists do not work in arts-related industries, and that artistic industries tend to rely on a dense and complicated network of labor pools, many of which do not rely on artistic contributions. Furthermore, we find that particular metros, such as Los Angeles and New York City, drive artistic occupational clustering in cities. We also perform a series of correlation and variance tests using the Herfindahl Index and correlation analysis looking at linkages between the presence of artistic industries and occupations. Our research points to other nonartistic industries in which artists tend to contribute their skills. We believe that such findings have significant implications for researchers and practitioners engaged in economic development for the arts, and beyond. We argue that this more focused and all encompassing approach will lend insight to research and practice directed towards “the arts” and artists – which are, as it turns out, not necessarily the same thing.

### **Data Limitations in Studying the Arts**

The arts are a complicated subject matter to study due to how artists and art skills are employed both in art industries and nonartistic industries. Artists are often freelance and

thus are not always accounted for in firm data, they are also employed as much in nonartistic industries as artistic sectors. Art firms need a diversity of nonartistic occupational skills in the production of cultural goods and services. Below we discuss the benefits and limitations to the various data available to study the arts.

### *Industry data*

Industry level data, drawn for the Bureau of Labor Statistics North American Industrial Classification System (NAICS) is widely used to document firm size, total wages, concentration, and location, as it represents a good measure of those workers and firms that are “economically viable”. In other words, if a firm is able to employ workers and must report earnings to the Bureau of Labor Statistics by extension it is a legitimate participant in the region’s economic base. There are several limitations in using this approach, particularly as it pertains to art and culture. Firstly, industry data does not reveal any information regarding to the composition of firm type and in this respect undercounts the role of cultural workers in “nonartistic” industries. For example, NAICS code 511130 Book Publishers tells us nothing about the various types of workers involved in this type of firm. On one level this limitation is ubiquitous across industries: The financial services category does not tell us about the administrative assistants, public relations and other such skills that are involved in this industrial category. But for artists, this chasm is particularly pronounced, because artists are often hired on an *ad hoc* basis and are often hired as “independent contractors” and their skills are widely used outside of “cultural industries”. Therefore, using industry data fails to capture their contribution in other industrial sectors. By way of example, on the whole, financial analysts work for financial service companies and thus industry data provides a fairly accurate account of

the financial industry, in the sense that there is a general alignment between occupation and industry. But because artists “crossover”, they tend to work for a diverse multitude of industries ranging from finance to book publishing to record labels to public relations, and as such industry data alone is not sufficient to fully investigate artistic contribution to a regional economy (Markusen et al. 2006).

Moreover, industry data tells us nothing about the internal dynamics of an industry within a particular place. For development and policy, understanding baseline skills within a region is central. As Massey (1984) documented in her study of the automobile industry, industries’ distribute their various parts of the production process in different spatial locations, a finding that Audretsch and Feldman (1996) corroborate in their study of high technology industry. More generally, industry data only reveals what industry is located at a particular location, but it does not tell us which specific part, or parts of that industry’s production process, are present in a specific location. This latter information is critical to understanding place-based regional development.

#### *Occupational data*

Industry data demonstrates limitations in its scope of understanding local economic dynamics and competitive advantage (Thompson and Thompson 1985; Markusen 2004). Thompson and Thompson (1985) argue that figuring out which occupational strengths a region possesses determines both local needs and advantage. Several different theoretical and methodological approaches have been argued for in making the case for occupational analysis. Markusen et al. (2004) posits that occupational analysis gives a much clearer picture of local economic dynamics, aiding in more effective economic development policy. Barbour and Markusen (2007) point out

that innovative industries cannot be predicted by their industry structure alone, as occupations are more geographically divided, with R&D locating in one part of the country and production in another, a point that Massey (1984) and Nelson (2003) have also argued. As such, occupations for the same industry can vary for different geographies. Similarly, Feser (2003) has argued for the distinction between “the kinds of work the local economy does [versus] the kinds of products it makes” (p. 1937), which is largely a function of the education and skills that a region possesses. Workers may move between jobs and industries within the same region, often without having to attain significant new skills, because “many skills and knowledge-bases are common to multiple occupations” (p. 1940).

Markusen’s (2004) approach provides a framework for identifying occupational characteristics employing a prescriptive three-step method that can be used by those in regional economic development for “occupational targeting”. The first step assumes knowledge of existing occupations or occupational clusters within the region that may not be present. However, a “step zero” is needed with a specific approach and applicable tools to help those doing economic development achieve some understanding and insight into their region’s current occupational strengths. While targeting specific, high-growth, and “capturable” occupations is desirable, regions need to first understand and build on existing strengths.

Similarly, current empirical research has emphasized the use of occupational data as measured by both the Census and the BLS Occupational Employment Statistics (OES). Markusen’s (2006b) extensive work on the “artistic dividend” argues that because artists tend to be footloose and thus not tied to an industry, the best gauge of cultural worker

concentration is through self-reported Census data. Currid (2006) incorporates industry-reported OES data in her analysis of artistic competitive advantage making the point that artists affiliated with firms is a measure of them making tangible economic contributions as opposed to being “starving artists” whose skills are not providing any meaningful or quantifiable value to the local economic base. These occupational approaches exhibit some drawbacks in achieving the whole picture of a region’s economic dynamics. While these data sources get to exactly which type of cultural workers are present within a regional economy, their limitations are the converse of industry data: They do not tell us which industries (if at all) are benefiting from these skills (as measured by occupation). In other words, there may be a high concentration of graphic designers in San Francisco (either reported through Census or OES), but this data alone does not tell us which industries are in demand of these skills or if these skills are even needed by local firms and industry. For example, if the OES data is employed we are aware that graphic designers are employed in the region but not by which industrial sector. Furthermore, as cultural workers have a tendency towards freelance work, more than other occupational groups, OES data may not capture these workers if they are not full-time employees. If self-reported Census data is used, this only tells us there are a lot of individuals who define themselves as graphic designers, but again that does not necessarily mean that they are working as such, or that their local region needs these skills.

While the earlier work of Thompson and Thompson(1985) used a very generic categorization for occupational clusters, the work of both Feser (2003) and Koo (2005) based their definitions of occupational clusters on the knowledge requirements of approximately 600 occupational categories as defined in the ONET system. In his study

of the Cleveland metropolitan area, Koo (2005) argues for a three tier approach in analyzing the regional economy targeting both occupations and industries. Both in Feser and Koo's studies, the result was to consolidate the ONET defined occupational categories into around 20 clusters. Rather than employing the widely used and recognized framework developed by Porter (1998) based on industry data, Koo uses a model that directly incorporates both occupations and industries.

Recently Barbour and Markusen (2007) have investigated the relationship between regional occupational and industry structure. They found that for some industries, the local occupational mix mirrors the national occupational mix but also showed that at least in the case of high-tech industries in California the national occupational structure for an industry is not a good approximation for the regional occupational mix for those same industries. They conclude that industry is not always sufficient on its own as a way to understand regional economic activity. Their result adds further support to the argument that both industry and occupational viewpoints are needed.

Occupational strengths can often act as leverage to attract industries seeking out particular skills. Occupational analysis indicates what specific type of human capital a region possesses, thus giving a more place-sensitive analysis of productivity and growth. Further, occupational analysis captures those individuals engaged in economically valuable work that may not have a bachelor's degree or above. This research approach has become an important component of contemporary economic development analysis, as it allows for greater nuance and a deeper understanding of regional growth, and how it differs across geographies.

There is both strong theoretical and empirical evidence that occupational analysis has become an effective method of understanding regional advantage and productivity. Economic development policy can be aided significantly by capitalizing on local strengths, best measured through the occupational or skill-mix a region possesses. A solely industrial-based analysis neglects the role of human capital in understanding clustering. Industry may set the stage, but tacit information, network structure and capital is exchanged through people. Yes, industries demonstrate their own physical economies of scale and scope, but industries also tremendously benefit from external economies and spillovers that a concentration of human capital and skills produces.

In this respect, the Porter (1998) industry-clustering model only tells us partly what is going on. It shows the demand-side: Where the industries are and what they are producing. But occupational analysis explains why the industries are geographically located where they are – for the specific skills that particular regions possess. Occupational analysis informs the supply-side of regional productivity and growth, and gives a deeper understanding of what types of activities are going on, how these types of work are engaging one another, and the potential for those skills to contribute to various industries. In other words, occupational analysis gets inside the black box of what types of human capital and skills are more or less important to regional productivity.

### **Research Approach**

Overall, the research and mythological approaches using occupational data address the regional skill base, giving a greater understanding of regional advantages than an analysis solely based on industry data. Nevertheless, our understanding of a region is still remains limited because it is not possible to establish the linkages between

occupational skills and particular industries, which in turn leave us with no comprehension of the interplay between industries and workers. Because cultural workers contribute to a regional economy in many, often complex ways, e.g. dancers working as Starbucks baristas waiting for their “big break” (which might or might not come), occupational data alone does not tell us enough. For the purposes of regional economic development, both industrial and occupational data only enable carpet-bombing policy approaches because neither provides enough nuance to target artists and cultural workers in a specific way.

In this article, we argue that the most effective way to measure the arts’ contribution to the regional economy is to look at the interplay between industries and occupations. Current occupational research accounts for these dynamics partially, but we argue that occupational and industrial analysis is not an either/or approach. Occupational analysis only provides a partial lens to understand regional dynamics. To be useful, any model of occupational clusters needs to be much more finely grained, and the industry-side of the equation should be addressed by those methods that are already generally accepted and most widely used. Regional dynamics must be understood on two levels: First, the industries, industry mix and clusters. Second, the occupations, occupation mix and clusters. Only based on this approach, the specific relationship of occupations *within* each industry or industry cluster may be fully understood.

Using national and regional data allows us to make some aggregate and comparative assessments of the state of the arts and how they engage across various industrial sectors. Regions that have a similar employment structure across an industry potentially have very different occupational utilization profiles, reflective of vastly

different locations on that industry's value chain or significant variation in the education, skills and talent available in the region's labor market. Along with using this broad analysis to demonstrate the place specificity of artistic composition, we show to which industries artists are most likely to contribute their skills, and which skills are most significant to cultural industries. We find that industry or occupational data alone tells us very little about the relationship between the arts and the regional economy, and future work on art and culture must consider the crucial link between industry and occupation in order to be truly effective in understanding local and national economic bases. Understanding these differences will allow for a much more nuanced and comprehensive understanding of a regional economy.

### **Data, Variables, and Methods**

Using detailed data from the Census and Bureau of Labor Statistics, we aim to attain deeper understanding of the role of human capital and skills and their interaction with local industry. The data needed to investigate these relationships is divided into three different categories: Occupational (OES from the Bureau of Labor Statistics), Industry by employment and firm (County Business Patterns, NAICS), and data showing linkages between industry and occupation distribution (Census PUMS). We will go into each data source in more detail below.

#### *Occupational Employment Statistics (OES)*

Individual occupation and employment data is from 2005 U.S. Bureau of the Census and the Bureau of Labor Statistics Occupational Employment Statistics (OES). We chose the OES because it provides two important aspects of our analysis: Data at the occupational level and industry reported, thus capturing people gainfully employed in

artistic work. While we are aware this data excludes freelance, it is a good proxy for capturing artists working for firms. Later, we use PUMS data which does include freelance workers. The Standard Occupation Classification (SOC) forms the basis for the OES. Occupational data reports on individuals currently working in the specified occupation. In addition, we looked at linkages between occupations and industries using 2000 Census PUMS. OES data (unlike PUMS) is specifically occupational data.

We chose 41 occupations from the OES survey based on the following criteria. First, we took all occupations under the major heading of “Arts, design, entertainment, sports, and media occupations”. These are the occupations whose SOC codes start with 27-xxxx. These were augmented with three occupations from the 25-xxxx group that had to do with museums and related work. These were added because at an industry level in Census data (PUMS) museums are classified within recreation and entertainment establishments, despite their artistic affiliation. These occupations were selected not so much to cleanly and succinctly represent only “the Arts”, but to generate an inclusive list that completely encompassed “the Arts” under any definition.<sup>2</sup> Detailed information, statistics, and correlations are reported for each occupation separately so the reader is free to limit or expand their definition of what should be included in “the Arts” as they see fit. In order to get a comprehensive view of artistic occupations on the national level, we have included a consolidated list of summary statistics for some key artistic occupations and their location quotients. We provide summary statistics for all datasets as an overview before undertaking more specific analysis. These summary statistics (Table 1)

---

<sup>2</sup> As previously discussed in the introduction of this paper, there is no universal agreed upon definition of the arts. For our purposes, occupations in this category include Archivists, Art Directors, Craft Artists, Fine Artists, Fashion Designers, Graphic Designers, Actors, Dancers, Choreographers, Musicians and Singers, Editors and Curators, among others. Our complete list, including summary statistics, can be found in the Appendix.

demonstrate that nationally the arts are not overly represented: Almost all Location Quotients<sup>3</sup> are below 1 but the standard deviation reveals variance across place, a finding we will discuss in more detail later in our analysis. Because some cities are disproportionately overrepresented (as demonstrated by the maximum metro region LQ results) and others not at all (as the minimum metro LQ reveals), the results below indicate that across the entire U.S. regions tend to be underrepresented in arts occupations. The mean LQ for most occupations is significantly under 1.

\*\*\*\*\*

Insert Table 1 about here

\*\*\*\*\*

#### *County Business Patterns NAICS Industry Data:*

The second category is industry data, which was taken from the Census Bureau's 2005 County Business Patterns. We chose this data because it captures industry reported employment and firm level data. This data provides another lens into the economic composition of a region. Industry data is reported at the firm or establishment level and is reported for firms that have employees or sales. We chose 6 industries (at the 3-digit level) from the County Business Patterns data North American Industry Classification System (NAICS) based on the criteria that 3-digit level data was considered detailed enough to broadly capture the industry while still being general enough that meaningful data could be retrieved at the county level for summing to metropolitan areas. When the CBP reported an employment range, the lowest value from that range was used as the

---

<sup>3</sup>  $LQ = (OR/TE_R)/(ON/TE_N)$  where  $OR$  = regional occupational employment,  $TE_R$  = total regional employment,  $ON$  = national occupational employment,  $TE_N$  = total national employment.

number of employees in keeping with a more conservative estimate, due to the highly skewed nature of firm employment counts. The industries that were selected include those most often associated with the “cultural industries” such as publishing, motion picture and video, broadcasting, performing arts, museums, and recreational establishments, among others.<sup>4</sup> Tables 2 and 3 show summary statistics for selected industries by establishment and employment, respectively. The industry data demonstrates slightly more overall concentration than artistic occupations (Table 1). Like the occupational results, the data in these tables demonstrates again that some metros are significantly concentrated while others lack artistic industry completely (as the maximum and minimum LQ results indicate). In both firm and employment data, artistic industries tend to have very notably high LQ maximums, but below average mean LQs. For example, museums and broadcasting firms demonstrate some overrepresentation in employment (mean LQ 1.21 and 1.32 respectively), which may reflect their ubiquity. However, like the occupational data, some industries are clearly overwhelmingly concentrated as witnessed by the maximum LQ results. The motion pictures industry, for example, has a maximum LQ of 7.97 in firm concentration, while having only a mean of 0.47 LQ. Similarly, employment in motion pictures has a maximum LQ of 5.08, while only a mean LQ of 0.57. Performing arts firm concentration has a maximum LQ of 9.21 and a mean LQ of 0.64 (See Tables 2 and 3).

\*\*\*\*\*

Insert Table 2 about here

\*\*\*\*\*

---

<sup>4</sup> For a complete listing, please see the Appendix.

\*\*\*\*\*

Insert Table 3 about here

\*\*\*\*\*

### *PUMS Variables*

The final category is data on individuals that includes both occupation and industry information. The 5% Census Public Use Microdata Sample (PUMS) data was employed. While the previous two sources report separate information on occupations or industries, this final source allows for reporting of occupations within an industry or for the reporting of all industries for a given occupation.<sup>i</sup> This data gives us insight into the interplay between industry and skills on a national and regional level.

All data is from the 2000, U.S. Census PUMS, as it is the most comprehensive and recent data of its type available. Industries and occupations were selected to match as closely as possible the industries and occupations selected above. Occupations were limited to musicians, dancers and entertainers as they are the primary Census occupations that are most closely related to “the Arts”. The Census maintains its own separate lists of occupations and industries, but does provide limited crosswalks to match Census occupations to SOC codes and Census Industries to NAICS codes. The three PUMS industry categories we chose were Broadcasting, Recording Industry and Artists. The occupational categories selected were Musicians, Dancers and Entertainers. These industrial and occupational categories are the most comprehensive groupings of artists and artistic industry.<sup>5</sup> Below we will discuss our analysis using these three datasets and

---

<sup>5</sup> The following is a complete description of Industry and Occupation categories chosen. Industries: *Broadcasting* is based on the number of employees within the broadcasting industry. (Official Census title “Radio and Television Broadcasting and Cable”; NAICS codes 5131, 5132). *Recording Industry* is based

the lenses they provide into our national and regional economies. Because the arts tend to concentrate in big cities we also conduct analysis on the top 30 largest metros. In order to study the place-specific nature of arts industry and occupational composition, we conclude with a focus on New York, Chicago and Los Angeles to see the differences in the artistic economy across three unique places.

## Results

The most salient result of our analysis has been the vast diversity of industries in which artistic skills are employed, and the significant variance of occupations comprising artistic industries, corroborating earlier work by Barbour and Markusen (2007) and Wassel and DeNatale (1997). Understanding the arts and artists requires a comprehensive look at many different intermingling industries and skill sets. Through the use of all aforementioned data sets we demonstrate these findings below.

First, we look at PUMS data on the distribution of occupations within the three broadly identified artistic industries: Artists, Broadcasting and the Recording. Overall, the arts industries are comprised of vastly different occupational skills. We find that while artistic occupations are dominant, even in the Artists industrial category, artistic occupations do not comprise even 50% of the occupational composition of the industries (Table 4). In Broadcasting and Recording the artistic composition is significantly

---

on the number of employees within the recording industry. (Official Census title “Sound Recording Industries”; NAICS code 5122). *Artists* is based on the number of employees within the industry of independent artists, performing arts, spectator sports, and related industries. (Official Census title “Independent Artists, Performing Arts, Spectator Sports, and Related Industries”; NAICS codes 711). Occupations: *Musicians* is based on employed and self-employed musicians. (Official Census title “Musicians, Singers, and Related Workers”; SOC code 27-2040). *Dancers* is based on employed and self-employed dancers and choreographers. (Official Census title “Dancers and Choreographers”; SOC code 27-2030). *Entertainers* is based on employed and self-employed actors, entertainers and performers. (Official Census title “Entertainers and Performers, Sports and Related Workers, All Other”; SOC code 27-2099)

smaller. For example, the Recording industry is only 12% comprised of Musicians, Singers and Related Workers. On one level, this is no surprise: Industries require a wide variety of interrelated, but different, skills in order to produce their goods and services. Accountants, computer technicians and managers are still necessary to produce albums and music concerts, even if musicians are the necessary, but insufficient initial input. Yet, the fact that the most artistic industries are significantly composed of “nonartistic” occupations demonstrates the heterogeneity and diversity of skills needed in the production of artistic goods and services.

\*\*\*\*\*

Insert Table 4 about here

\*\*\*\*\*

Conversely, we found that there is a great degree of diversity among the industries employing artists. Cultural workers, or artists, tend to seek out employment in very diverse industrial categories. While the three PUMS artistic occupational categories are all primarily employed within the Independent Artists industrial category, less than 50% of each artistic occupation is employed in artistic industries. For Dancers, Entertainers and Musicians, their secondary industrial sector is different but tends to explain (along with the Artists industry) over 60% of employment (Table 5). For example, almost 80% of Musicians are employed in either artistic or religious industrial sectors, with the remaining three top 5 industries accounting for less than 8% of employment. Dancers and Entertainers are more diverse than Musicians in their employment, yet still 75% and 61% of their employment is attributed to just two industrial sectors, respectively. Entertainers

are the most diverse occupational category with almost 20% of their employment being in the latter three identified top 5 industrial sectors. In our concluding section we will discuss the implications of these results for research and economic development.

\*\*\*\*\*

Insert Table 5 about here

\*\*\*\*\*

### *The Herfindahl Index*

In the previous section, we demonstrated that artistic industries are driven by nonartistic skills as much as artistic skills and that artists seek out work in nonartistic industries. But to what extent are artistic industries varied in their occupational structure and how diverse are the industries in which artists are employed? In order to get a sense of the overall variation of industry and occupational composition, we employed the standard Herfindahl Index, which allows us to see variation of occupations across each industry, and second, the variation of industries across the occupations. The Herfindahl Index is simply the sum of squared shares (100-squared). If, for example, an entire industry had people in only one occupation, the index would be 10,000. The closer the value is to zero (0), the greater the variation across the industry.<sup>6</sup>

---

<sup>6</sup> **Herfindahl:**

$$H = \sum_{i=1}^N s_i^2$$

$s_i$  = share of occupation or industry  $i$ , and  $N$  = the number of occupations/industries.

The Herfindahl Index results show that there is significant variation of occupations across the entire sample and that there is also variation in occupations across the broadcasting, artists, and recording industries (Table 6A). The broadcasting industry has the greatest variation of occupations and the recording industry the least variation (though it exhibits a significant amount of variation, nonetheless). Table 6B shows that, again, there is significant variation in industry across the entire sample.

\*\*\*\*\*

Insert Table 6A about here

\*\*\*\*\*

\*\*\*\*\*

Insert Table 6B about here

\*\*\*\*\*

There is, *per force*, less variation across the entire sample in industry than there was in occupation because the sample has only 264 industries but has 475 occupations. However, the difference in the Herfindahl Index for the three culturally creative occupations reveals that these occupations are generally much more concentrated in a smaller number of industries than was the case with the culturally creative industries. Overall, these results indicate that cultural occupations as a whole tend to show up in many industries and thus industry or occupational data alone gives us a very small lens of a much more diverse and complicated dynamic. While some occupations, such as dancers, musicians and entertainers have a less variant industrial makeup, they still are not directly linked to one particular industry. *Taken together, these results strongly suggest that investigating artistic clusters by industry is much more error prone than*

*simply using occupations.* We maintain that analysis from both perspectives is the best approach. Thus far, these results indicate that industrial policy versus skill-targeting are distinctly different, and speculate that these approaches would produce significantly different results.

*Correlations between Industries and Occupations (LQ's)*

We were interested in seeing if the regional concentration of artistic occupations begets a concentration of artistic industries and vice versa. Thus, we ran correlations between the LQs of occupations and industries. Overall, our results demonstrate the occupations are not a good predictor of industry location. Among all analyzed industries and occupations, there is only a strong correlation (at the metropolitan area level) between the employment location quotients of one occupation and industry pair (27-2011 Actors and 512 the Motion Picture Industry at 0.76). While the co-location of these groups is to be expected, we were surprised that there were not more pairs of occupations and industries that have stronger correlations<sup>7</sup>. The next largest correlations ranged between 0.47 and 0.49:

<b>Correlation</b>	<b>Occupation and Industry Employment</b>
0.493	27-0000 (Overall Arts, Design, Entertainment) & 511 (Publishing)
0.488	27-0000 (Overall Arts, Design, Entertainment) & 512 (Motion Pictures)
0.484	27-4012 (Broadcast Technicians) & 515 (Broadcasting)
0.476	27-1014 (Multimedia Artists and Animators) & 512 (Motion Pictures)

While industry establishment has a stronger link with occupations than industry employment, in general there are not many strong correlations between occupations and industry establishments. The largest correlations are:

---

<sup>7</sup> Because our results here were rather underwhelming, we only briefly discuss some of the results in the text. The full correlation results are available from the authors upon request.

**Correlation Occupation and Industry Establishments**

0.632	27-2011 (Actors) & 512 (Motion Pictures)
0.585	27-0000 (Overall Arts, Design, Entertainment) & 512 (Motion Pictures)
0.578	27-3041 (Editors) & 511 (Publishing)

Overall, these correlation results clearly show that the concentration of artistic occupations and industries are generally different from each other. Generally, locations with high (or low) concentrations of employment in artistic industries do not necessarily have high (or low) concentrations of artistic occupations. There are no pairs of industries and occupations that are significant and large *negative* correlations so a high concentration of one is generally not associated with a low concentration of the other. In general, the correlations are positive and significant but not that strong. Table 7 is a very general reporting of correlations across industries by industrial code.

\*\*\*\*\*

Insert Table 7 about here

\*\*\*\*\*

Again, within the culturally creative industries, there are few strong correlations (positive or negative) between concentrations of employment at the metropolitan area level among the various industries. In essence, the results above show that there is not clustering of these industries on a high-level. Between establishment and employment location quotients, there are (not surprisingly) strong positive correlations between the concentration of establishments and the concentration of employment. Although positive significant correlations are shown for all six, they are only notably strong for Publishing (511), Motion Pictures (512), and Broadcasting (515). Publishing and Broadcasting have a higher average employment per establishment which would help to explain the large

correlation, and Motion Pictures are already known to be concentrated in a small number of geographic regions (Scott 2005). The only other strong correlations are between Performing Arts , Spectator Sports and Related Industry (711) establishments and Motion Picture and Video (512) industry establishments and employment.

*Correlations among Occupations (LQ's)*

We also undertook correlation analysis between concentrations of occupations and industries to see if there was a relationship between being overly represented in an industry and being overly represented in artistic occupations, and vice versa. Location Quotients are a measure of a region's representation in a particular industry or occupation vis-à-vis a larger geographical area. In this case, we looked at the U.S. metro concentrations compared to the U.S. as a whole. We then studied whether concentration in an artistic occupation was closely correlated to artistic occupation concentration overall. In other words, if a metro is concentrated in musicians does that indicate a concentration in other types of artistic occupations? We undertook the same analysis on the industry level as well. In general, these correlations, like the industry correlations show very little occupational clustering of artistic occupations in the U.S. metropolitan areas (Table 8). There are not many results that are negatively correlated with each as well. While there are some relationships, the results imply that they are generally not that strongly related with each other. Table 8 reports the highest obtained correlation values between the location quotients (LQs) for the occupations.<sup>8</sup>

\*\*\*\*\*

---

<sup>8</sup> More results available on request from the authors. For the sake of clarity and brevity, we have only included the top correlation results.

Insert Table 8 about here

\*\*\*\*\*

This table shows that concentrations of artistic industries is not a good measure of concentration of artistic skill concentration, and conversely a strong presence of artists or cultural workers is not an indication of possessing great advantages in cultural industries. The higher correlation values between some occupations and the 27-0000 category, which is the LQ for all Arts, Design, and Entertainment employment in the region, does show some general clustering across the entire gamut of occupations for selected occupations shown. For example, the high correlation values for Producers and Directors indicates a wide variety of other artistic occupations occur in regions along with a concentration of Producers and Directors, but the specific occupations vary across regions – some regions might have more Actors, other regions more Dancers or Musicians. In summary, these results suggest that while artistic occupations do not seem to geographically co-locate, their presence also does not deter one another either. Generally, these findings suggest neutral linkages across artistic occupations, and affirm that artistic industries and occupations do not inform one another. We speculate that this is due to the way in which metros tend to specialize in particular artistic strengths rather than possessing a strong advantage in cultural industries and skills overall. This finding corroborates with our earlier PUMS analysis. Artistic industries are associated with nonartistic occupations as much as with artistic occupations and vice versa. Overall, this lack of correlation may be a deterrent to a region's ability to establish an artistic economy. Recent research has indicated that there is reason to believe that a region's

ability to cultivate a diverse artistic mix may be important in the production of artistic innovation and competitive advantage (Currid 2006, 2007a, 2006b).

Undoubtedly, there are particular artistic hubs that challenge these results, but these cities are rare, and we speculate drive many of the outlining results presented (particularly our results on the maximum LQs). Only exceptionally concentrated and dense metros tend to exhibit denser and more diverse correlation results. Los Angeles and New York have long been documented for having strong concentrations of various artistic industries and cultural workers that tend to feed off of one another, sharing skills and cross fertilizing (Scott 2000, 2005; Markusen and Schrock 2006a Currid 2006, 2007a, 2007b; Alliance for the Arts 2007; Otis/LAEDC 2007). That said, we believe that Los Angeles and New York are exceptions rather than the rule. As previous work has noted, lots of smaller cities have become significant specialized artistic hubs in niche areas, by cultivating distinct types of painting, writing or music (Markusen 2004). In other words, Los Angeles and New York act as large global cultural and artistic hubs, while smaller locales around the country tend to contribute in more specialized artistic production and skills. Thus, such niche tendencies must be taken into account in forming arts-oriented policy at the local level.

### *30 Largest Regions*

Artists and big cultural firms have long demonstrated a desire to locate in big cities. Whether Hollywood, Chicago jazz, New York's Fashion Week or the Chelsea art district, artistic populations and industries seem to overwhelmingly locate in metro areas. Due to the tendency for artistic industries and workers to disproportionately concentrate in big cities, we narrowed our analysis to look at just the top 30 metros and investigated the interplay between artistic occupations and industry and their interaction with nonartistic firms and skills. We used a similar approach with this more limited sample as the one we undertook for our national level analysis. The results are discussed below. In tables 9 and 10 we present the summary statistics which demonstrate that overall the top 30 metros are not significantly more concentrated as a whole in artistic occupations, which indicates that artists are not just a big city phenomenon. The industry results, however, show a slightly greater concentration of arts industries in the biggest metros. We will discuss exceptions with regards to sector (e.g. music) and city (e.g. New York City) as they present themselves, but in their entirety, the top 30 metros are not significantly more represented in the arts than the nation as a whole. As the standard deviations for LQ and mean employment demonstrate, there is significant variation across even the 30 largest U.S. metros, which is reflected in the disproportionate concentration of film in Los Angeles, authors in San Francisco and art in New York City. As we will discuss later, artistic industries and occupations are overwhelmingly located in a very small number of big metros, which skews our general perception of the link between art and the city. US cities are not all art-centric, but are instead driven by a few critical creative hubs.

\*\*\*\*\*

Insert Table 9 about here

\*\*\*\*\*

\*\*\*\*\*

Insert Table 10 about here

\*\*\*\*\*

What does the composition of metro arts industries look like? The results are somewhat expected. Overall, the arts industries in the top 30 metros are comprised of the same occupations as that of the nation as a whole. The top five occupations in the arts are the same as those for the nation, with the exception of agents which are 3.32% of arts jobs in the top metros but are not in the top five for the nation. However, the representation of these occupations within the arts industries is distributed differently: Artists are more prominently employed in Arts industries in the nation overall (14.32%, see table 5 for national results) than in the top 30 metros (10%, table 11). Musicians are distributed almost exactly the same in the nation and top 30 metros (13.11% vs. 12.10% nationally). Actors and agents are overall more prominently employed in the arts in the biggest metros, which may be a reflection of the disproportionate concentration of these workers in Los Angeles and New York. The broadcasting industry's occupational composition is roughly the same across the metros and nation, demonstrative of the ubiquity of the industry across the U.S. The recording industry is almost mirrored identically in rank and representation nationally and in the top 30 metros, a surprising finding given the concentration of the music industry in major metro areas. We speculate that these results are indicative of the

basic occupational skills necessary in the recording industry regardless of place. This conclusion can be similarly drawn with the Broadcasting industry. This stands in contrast to the findings pertaining to the Artist industry, which tends to specialize (art, fashion, music and so forth) by locale, thus allowing for differences across place and population size of metro.

\*\*\*\*\*

Insert Table 11 about here

\*\*\*\*\*

\*\*\*\*\*

Insert Table 12 about here

\*\*\*\*\*

Industry data on the top 30 metros reveals a different pattern than what is observed on the national level. Likely due to the greater representation of arts industries in top metros (particularly in Los Angeles and New York as discussed in the next section), dancers are more likely to be employed in art industries in the biggest cities than in the nation as a whole (62.58%, Table 12 vs. 42.72%, Table 6). Musicians are also more employed by art industries in metros than in nation as a whole (59% versus 46%) and are much less employed by religious organizations in the biggest cities (17% in the top 30 metros vs. 31% nationally). While the largest metro areas are not more concentrated in artistic workers, as the summary statistics demonstrate, they are more likely to be centers of artistic industry. Of course, the arts industries tend to be comprised of a multitude of occupational categories that are “nonartistic” as well as artistic. Yet, the concentration of

the arts industry in the top 30 metros may provide artistic workers located in these places with greater opportunity to work in an art industry.

*New York City, Los Angeles, Chicago*

In order to look at the place-specific nature the arts, we investigated the three largest metro areas in the United States: New York City, Los Angeles and Chicago. New York City (NYC) and Los Angeles (LA) have been extensively documented for their overwhelming concentration in the arts and cultural industries (Molotch 1996; Currid 2006; Currid and Williams 2009) while Chicago has a historical reputation for being a cultural hub, despite exhibiting average and below average representation in the arts in recent years. The choice of these cities was driven by both, the desire to look at the uniqueness of arts composition, and also the way in which overly concentrated and less concentrated artistic economies compare. Despite both being very concentrated in the arts, Los Angeles and New York City exhibit different levels of specialization and agglomeration while simultaneously maintaining a base of cultural skills and industry. Chicago, on the other hand, exhibits greater concentration in museums and archivists, but overall is emblematic of the top 30 cities. The analysis of these cities demonstrates that most artistic activity and concentration occurs in two central artistic hubs: New York City and Los Angeles. These two metros are undoubtedly the U.S. cultural hubs and they maintain this position across various occupation and industry categories. Both NYC and LA maintain over represented LQ figures for almost all occupations and industries, with particular specializations in certain fields, e.g. fashion and art in New York City, film and fashion in Los Angeles; see Tables 13 and 14. Despite a few overrepresented sectors and

occupations, e.g. museums and music directors, Chicago is reflective of the nation and the top 30 metros investigated above.

\*\*\*\*\*

Insert Table 13 about here

\*\*\*\*\*

\*\*\*\*\*

Insert Table 14 about here

\*\*\*\*\*

The concentration of artistic skills and industry in Los Angeles and New York City can also be measured by removing these cities from the top 30 metros analyzed. Removing these two cities from the analysis dramatically reduces the proportion of particular artists working in art industries across the top 30 metros. For example, when LA and NYC are removed from the top 30 metro analysis, only 45% of dancers are employed by arts industries versus almost 63% when these two cities are included. Producers and directors comprise a significant proportion of the arts, recording and broadcasting industries when New York City and Los Angeles are included (see Tables 15 and 16), but are nonexistent when these cities are removed from the data. When LA and NYC are included, 60% of top 30 metro musicians employment can be explained by art industries. When these two cities are removed, that figure declines to 43%. Some 33% of musicians are employed by religious organizations when LA and NYC are removed versus 17% when the two cities are included in the analysis. Quite simply, Los Angeles and New York City explain a significant proportion of artists employment in artistic industries. Additionally, art

industries are more “artistic” in LA and NYC – the industries in these cities are comprised of more artistic occupations than in the other top metros<sup>9</sup>.

More specifically, the artistic industries in New York, Los Angeles and Chicago demonstrate the place-specific nature of how art industries are comprised. New York City’s and Chicago’s artist industry are primarily musicians, writers and artists, while Los Angeles is strongly driven by actors as well. Los Angeles and New York City have similarly distributed broadcasting while Chicago is less concentrated in production of shows, a finding that corresponds to the general assessment of LA and NYC as centers of the creative production for television.

\*\*\*\*\*

Insert Table 15 about here

\*\*\*\*\*

\*\*\*\*\*

Insert Table 16 about here

\*\*\*\*\*

---

<sup>9</sup> Please see appendix for tables that outline these results.

\*\*\*\*\*

Insert Table 17 about here

\*\*\*\*\*

Overall, the occupations that comprise the artistic industries and the proportion of these occupations show similar patterns as the ones observed in the nation and top 30 metros, though Los Angeles and New York City's specialization in particular artistic industries appears somewhat. However, when we look at the industries employing artists we see the advantages of locating in LA or NYC over other metro areas. In New York City and Los Angeles, all artists analyzed are significantly more likely to be employed by an artistic industry than in other cities. Over 70% of dancers in New York City are employed by art industries (versus 62% for top 30 metros, 45% when LA and NYC are removed from the analysis of top 30 metros, and only 42% nationally; see Tables 5, 12, 18 and appendix). Chicago's dancers reflect the national average, with 46% of these workers being employed in arts industries (Table 20). Musicians are also far more likely to be employed in arts industries in New York and Los Angeles (61% and 62% respectively versus 46% nationally; see Table 5). Chicago again reflects the national results. We speculate that New York and Los Angeles tend to be hubs of artistic industry as they actually produce goods and services for a global marketplace (Molotch 1996; Currid 2006), and thus have many more opportunities for artists to employ their artistic skills. Even if the composition of the arts industries tends to be quite uniform across metros and the nation, the quantity of arts industry is just greater in New York and Los Angeles and by extension offers greater employment opportunities.

\*\*\*\*\*

Insert Table 18 about here

\*\*\*\*\*

\*\*\*\*\*

Insert Table 19 about here

\*\*\*\*\*

\*\*\*\*\*

Insert Table 20 about here

\*\*\*\*\*

### *Implications for Research and Practice*

Economic development practice and research has become increasingly focused on the arts as an important part of local and regional growth. However, research, and the development of effective policy instruments have been limited somewhat by our lack of full understanding of the interaction of the arts and the composition of the arts in regional, national and local economies. While we do not aim to recommend particular strategies for development, our intention has been to articulate the multiple ways in which the arts shows up in the economy. We hope this will help to inform practitioners in their efforts to employ and support the arts in development. This paper has aimed to convey that supporting the arts and employing them in development is far more nuanced than targeting arts industries and hoping that a rising tide raises all boats. Most fundamentally, what we have demonstrated is that artistic industries are not the same thing as an artistic skill base. Art industries need nonartists and artists work for

nonartistic industries. These findings have implications for how to target development towards the arts along with how to cultivate the skill base and resources necessary for art industries to thrive.

Equally important is that these findings are not universal. While art industries do tend to have a general composition that appears consistent across national, aggregate metro and unique locales, particular cities tend to have specializations and some metros have greater concentrations of artistic employment opportunities. Thus, while the Arts industries are primarily comprised by artists, musicians and writers across different geographies, New York and Los Angeles, as hubs of artistic industrial activity, are simply able to employ more of these workers than other locales. As such, these cities tend to have a greater proportion of artists, dancers, musicians and so forth that are actually working within the arts industries.

Overall, there are four important findings in our analysis: 1. Current data analysis and collection approaches capture only one aspect of artistic and cultural economic distributions both locally and nationally 2. There is wide variance in the types of industries that cultural occupations are present in and cultural workers tend to use their skills in many more industries than just those that would obviously require their skills, e.g. musicians aren't all singing at the opera or at rock venues. 3. Geographical concentration of industry is not an indication of occupation composition and vice versa. In fact, generally artistic industry and occupational concentrations do not co-locate. 4. Particular cities, namely Los Angeles and New York, do act as artistic hubs for a wide variety of industries and occupations. These cities may drive some of the overall metro

results observed. Below we outline what we hope are important practical and research implications of this analysis.

*Multi-tier data collection and analysis*

As we discuss data limitations in depth earlier in this article, we will only briefly address our perspective here. As we have found, by collecting more data from a variety of sources we have not created redundancy, but rather a more comprehensive and nuanced understanding of the arts. Further, the unique contribution each data set provides allows us to assess the linkages between skills and industries. In other words, a concentration of artists as found through OES data does not mean that these workers work in art industries, but it takes further investigation, utilizing County Business Pattern and Census PUMS data, to discover this finding and to figure out which sectors are employing them. Corroborating Barbour and Markusen's (2007), and Markusen's (2004) work, OES data may tell us about those artists working for firms that report to the BLS, but this data does not reveal anything about freelance artists, which are only captured through Census PUMS data. Thus, using data sets together allows both researchers and practitioners greater ability to study economic dynamics and in turn to inform local development.

*Arts are extraordinarily place-specific.*

The national and 30 metro analysis is useful in demonstrating some general skills and occupations that arts industries are comprised of, and the industries where artists find work. But when we look at specific case studies, we find that cities are much more specialized. Actors thrive in Los Angeles practicing their art, but are less likely to find work in Cleveland. When we look at musicians nationally they are often employed by religious organizations, while in New York City just 18% of all musicians work in

religious organizations and over 70% work in the arts. Data on the local level gives us a much more meaningful perspective on what drives the local artistic economy and the industries and occupations of which it is comprised. Silicon Valley, initially a bastion of computer scientists and technology, has evolved into a center of new media and video game production, largely using the same skills that pioneered its initial competitive advantage. Los Angeles has also become a leading center for video game and new media technology, but this advantage is fueled by its initial skills in film making and animation. Thus development approaches for Silicon Valley and Los Angeles would require engaging different base industries and skills in each place in order to produce a similar end product. From an occupation perspective, particular types of workers with the same skills apply them to different industries depending on their locale. Writers in Los Angeles are essential to Hollywood film, while writers in New York may work in publishing. Artists in San Francisco contribute to new media, artists in New York work in fine arts or public relations. More to the point, skills (of all sorts) are applied to many different industries, and industry composition is different depending on where the industry and skills are located.

*Industry does not beget skills and vice versa.*

Our location quotient correlation analysis indicates that not only are industries and occupations diverse in their composition and inter-linkages, but that artistic industrial concentration is not synonymous with artistic skill concentration as well and vice versa. In other words, our LQ analysis suggests that, barring Los Angeles and New York, overall, there is little evidence that artistic industries or artistic occupations cluster together. Particular places have niche specializations in particular types of artistic skills

and/or industries, but that skills and industries are not strongly correlated or predictive of one another. Santa Fe may possess sculptors or fine artists but that does not imply that the region also has a strong representation in actors or musicians. The cross fertilization and overall artistic economy tends to be in Los Angeles and New York City. These two cities possess a great preponderance of artistic industries and occupations, but these locales are the exception not the rule. In summary, having a strong concentration in a particular artistic sector or skill does not imply an overarching concentration artistic activity or specialization in another cultural industry.

Similarly, the Herfindahl indices show that the variance across industries in which artists participate is vast and diverse. The skill composition of cultural industries is driven by a variety of artistic and nonartistic occupations. Thus, efforts to promote artists may involve supporting nonartistic industries that employ them. For developers, supporting “the cultural industries” may mean targeting all of the various people and skills necessary to production, many of which are not artists. Artistic industries tend to be extremely varied in their skill sets, and artistic skills are used for many different industries.

Overall, we hope this analysis informs research and by extension practical approaches to studying and developing the arts. Art and culture are some of the most complicated occupations and industries to study, partially because artistic skills are much needed in many different industrial sectors. Equally important, despite art’s reputation as being wildly creative and organic, fundamentally it depends on a wide industrial and skill infrastructure to distribute itself to a larger marketplace and economy. Thus, in our efforts to understand the arts in national, regional and local economies, we must

recognize that not only are the arts and artists not the same, but that both also require the “nonartistic” skills and industries in order to realize their creative and economic potential.

**Appendix A: Tables comparing Top 30 metros including/excluding New York City and Los Angeles**

**Industries for Occupations (Top 30 Cities with New York City and Los Angeles included/excluded)**

Occupation	% of Occup Total		Industry Titles
	With NYC, LA	w/o NYC, LA	
Dancers	62.58%	45.95%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	15.48%	18.92%	Drinking Places, Alcoholic Beverages
	6.77%	8.11%	Other Amusement, Gambling, And Recreation Industries
	3.23%	0.00%	Motion Pictures And Video Industries
	2.90%	10.81%	Other Schools, Instruction, And Educational Services
	1.61%	0.00%	Elementary And Secondary Schools
	1.61%	0.00%	Restaurants And Other Food Services
Entertainers	48.08%	53.33%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	16.73%	17.78%	Other Amusement, Gambling, And Recreation Industries
	11.54%	6.67%	Motion Pictures And Video Industries
	4.62%	8.89%	Restaurants And Other Food Services
	3.46%	0.00%	Other Personal Services
	2.50%	6.67%	Drinking Places, Alcoholic Beverages
Musicians	59.77%	43.97%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	17.06%	33.85%	Religious Organizations
	3.35%	3.11%	Restaurants And Other Food Services
	4.77%	2.33%	Sound Recording Industries
	1.93%	2.33%	Drinking Places, Alcoholic Beverages
	1.56%	2.33%	Elementary And Secondary Schools
	0.32%	1.95%	Funeral Homes, Cemeteries And Crematories
	0.96%	1.56%	Colleges And Universities, Including Junior Colleges
	1.83%	1.17%	Motion Pictures And Video Industries
	0.73%	1.17%	Other Schools, Instruction, And Educational Services
	0.55%	1.17%	Civic, Social, Advocacy Organizations, And Grantmaking And Giving Services

**Occupations for Industries (Top 30 Cities minus New York City and Los Angeles)**

Industry	% of Ind Total		Occupation Titles
	With NYC, LA	w/o NYC, LA	
Artists	10.10%	10.99%	Artists And Related Workers
	13.11%	10.80%	Musicians, Singers, And Related Workers
	10.88%	10.04%	Writers And Authors
	2.85%	4.59%	Athletes, Coaches, Umpires, And Related Workers
	1.05%	3.73%	Nonfarm Animal Caretakers
	8.54%	3.35%	Actors
	1.48%	2.49%	Cashiers
	1.32%	2.49%	Ushers, Lobby Attendants, And Ticket Takers
	2.51%	2.29%	Entertainers And Performers, Sports And Related Workers, All Other
	2.29%	2.10%	Managers, All Other
	2.13%	2.01%	Photographers
	3.32%	1.91%	Agents And Business Managers Of Artists, Performers, And Athletes
	3.10%	1.82%	Producers And Directors
Broadcasting	6.21%	7.65%	Advertising Sales Agents
	5.12%	6.85%	Telecommunications Line Installers And Repairers
	4.37%	6.04%	Customer Service Representatives
	10.48%	5.91%	Producers And Directors
	2.71%	4.83%	Announcers
	3.62%	4.43%	Managers, All Other
	4.39%	4.30%	Broadcast And Sound Engineering Technicians And Radio Operators
	3.14%	4.30%	News Analysts, Reporters And Correspondents
	2.75%	3.22%	Marketing And Sales Managers
	1.84%	2.82%	General And Operations Managers
	2.12%	2.68%	Radio And Telecommunications Equipment Installers And Repairers
Recording	14.77%	23.21%	Broadcast And Sound Engineering Technicians And Radio Operators
	11.72%	10.71%	Musicians, Singers, And Related Workers
	8.12%	7.14%	Managers, All Other
	0.68%	5.36%	Engineering Technicians, Except Drafters
	4.62%	3.57%	Producers And Directors
	2.71%	3.57%	Bookkeeping, Accounting, And Auditing Clerks
	1.47%	3.57%	Shipping, Receiving, And Traffic Clerks
	1.24%	3.57%	Editors
	0.56%	3.57%	Industrial Production Managers
4.62%	1.79%	Marketing And Sales Managers	

## Appendix B: Complete Tables for New York, Los Angeles and Chicago

### Top Five Occupations Within Artistic Industries (New York City)

Industry	% of Ind Total	Occupation Titles
Artists	13.47%	Musicians, Singers, And Related Workers
	11.53%	Writers And Authors
	10.89%	Artists And Related Workers
	6.92%	Actors
	3.22%	Producers And Directors
Broadcasting	10.66%	Producers And Directors
	6.29%	Advertising Sales Agents
	4.72%	Customer Service Representatives
	4.66%	Broadcast And Sound Engineering Technicians And Radio Operators
	4.51%	Telecommunications Line Installers And Repairers
Recording	14.29%	Broadcast And Sound Engineering Technicians And Radio Operators
	10.03%	Musicians, Singers, And Related Workers
	7.27%	Managers, All Other
	5.26%	Producers And Directors
	4.76%	Secretaries And Administrative Assistants

### Top Five Occupations Within Artistic Industries (Los Angeles)

Industry	% of Ind Total	Occupation Titles
Artists	13.28%	Musicians, Singers, And Related Workers
	11.47%	Actors
	10.42%	Writers And Authors
	9.06%	Artists And Related Workers
	3.90%	Agents And Business Managers Of Artists, Performers, And Athletes
Broadcasting	11.63%	Producers And Directors
	5.65%	Advertising Sales Agents
	5.44%	Telecommunications Line Installers And Repairers
	4.03%	Broadcast And Sound Engineering Technicians And Radio Operators
	3.37%	Customer Service Representatives
Recording	14.12%	Broadcast And Sound Engineering Technicians And Radio Operators
	13.43%	Musicians, Singers, And Related Workers
	9.03%	Managers, All Other
	5.79%	Marketing And Sales Managers
	4.17%	Chief Executives

### Top Five Occupations Within Artistic Industries (Chicago)

Industry	% of Ind Total	Occupation Titles
Artists	10.99%	Artists And Related Workers
	10.80%	Musicians, Singers, And Related Workers
	10.04%	Writers And Authors
	4.59%	Athletes, Coaches, Umpires, And Related Workers
	3.73%	Nonfarm Animal Caretakers
Broadcasting	7.65%	Advertising Sales Agents
	6.85%	Telecommunications Line Installers And Repairers
	6.04%	Customer Service Representatives
	5.91%	Producers And Directors
	4.83%	Announcers
Recording	23.21%	Broadcast And Sound Engineering Technicians And Radio Operators
	10.71%	Musicians, Singers, And Related Workers
	7.14%	Managers, All Other
	5.36%	Engineering Technicians, Except Drafters
	3.57%	Industrial Production Managers

### Top Five Industries for Artistic Occupations (New York City)

Occupation	% of Occup Total	Industry Titles
Dancers	71.01%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	13.04%	Drinking Places, Alcoholic Beverages
	4.35%	Other Amusement, Gambling, And Recreation Industries
	2.90%	Motion Pictures And Video Industries
	2.90%	Elementary And Secondary Schools
Entertainers	51.61%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	10.75%	Other Amusement, Gambling, And Recreation Industries
	6.99%	Motion Pictures And Video Industries
	4.84%	Restaurants And Other Food Services
	3.76%	Other Personal Services
Musicians	62.16%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	18.11%	Religious Organizations

	4.07%	Sound Recording Industries
	1.93%	Restaurants And Other Food Services
	1.63%	Elementary And Secondary Schools

**Top Five Industries for Artistic Occupations (Los Angeles)**

Occupation	% of Occup Total	Industry Titles
Dancers	58.52%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	17.04%	Drinking Places, Alcoholic Beverages
	8.89%	Other Amusement, Gambling, And Recreation Industries
	4.44%	Motion Pictures And Video Industries
	2.22%	Other Schools, Instruction, And Educational Services
Entertainers	44.98%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	20.42%	Other Amusement, Gambling, And Recreation Industries
	15.22%	Motion Pictures And Video Industries
	3.81%	Restaurants And Other Food Services
	3.81%	Other Personal Services
Musicians	61.60%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	11.38%	Religious Organizations
	6.17%	Sound Recording Industries
	4.89%	Restaurants And Other Food Services
	2.66%	Motion Pictures And Video Industries

**Top Five Industries for Artistic Occupations (Chicago)**

Occupation	% of Occup Total	Industry Titles
Dancers	45.95%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	18.92%	Drinking Places, Alcoholic Beverages
	10.81%	Other Schools, Instruction, And Educational Services

	8.11%	Other Amusement, Gambling, And Recreation Industries
	2.70%	Book Stores And News Dealers
Entertainers	53.33%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	17.78%	Other Amusement, Gambling, And Recreation Industries
	8.89%	Restaurants And Other Food Services
	6.67%	Motion Pictures And Video Industries
	6.67%	Drinking Places, Alcoholic Beverages
Musicians	43.97%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	33.85%	Religious Organizations
	3.11%	Restaurants And Other Food Services
	2.33%	Sound Recording Industries
	2.33%	Elementary And Secondary Schools
	2.33%	Drinking Places, Alcoholic Beverages

## References

- Alliance for the Arts. 2007. Arts as an industry: Their economic impact on New York City and New York State. New York: Alliance for the Arts.
- Americans for the Arts. (2004). Creative Industries Study. Washington, DC.
- Audretsch, David B. and Maryann P. Feldman, "Knowledge Spillovers and The Geography of Innovation and Production." *American Economic Review*, 86, 1996, pp. 630-640.
- Barbour, E. and Markusen, A. (2007). Regional occupational and industrial structure: Does one imply the other? *International Regional Science Review*. Vol. 30. No. 1.
- Blumer, H. (1969) Fashion: from class differentiation to collective selection. *Sociological Quarterly*, 10: 275–291.
- Carr, James and Servon, Lisa. 2007. Cultural authenticity and urban economic development. Presented at the ACSP Annual Meeting, Milwaukee, WI. October 2007.
- Clark, Terry N. 2004. *The city as an entertainment machine*. Oxford: Elsevier Ltd.
- Currid, Elizabeth 2007a. *The Warhol economy: How fashion, art and music drive New York City*. Princeton: Princeton University Press.
- 2007b. How art and culture happen in New York: Implications for urban economic development. *Journal of the American Planning Association*. Autumn.
- Currid, Elizabeth. 2006. New York as a global creative hub: A competitive analysis of four theories on world cities. *Economic Development Quarterly*. Vol.20 (4). Pp. 330-350.
- Currid, E. and Williams, S. (2008) Two Cities, Five Industries: Similarities and Differences Within and Between Cultural Industries in New York and Los Angeles. *Journal of Planning Education and Research* (forthcoming)
- (2009) The geography of buzz: Art, culture and the social milieu in New York and Los Angeles. *Journal of Economic Geography*. (Advanced Online Access)
- Evans, Graeme. 2003. Hard-branding the cultural city – From Prado to Prada. *International Journal of Urban and Regional Research*. Vol. 27 (2). Pp. 417-40.
- Florida, Richard. 2002a. *The Rise of the creative class: And how it's transforming work, leisure, community and everyday life*, New York: Basic Books.

-- 2002b Bohemia and economic geography. *Journal of Economic Geography*. Vol. 2 (1) pp. 55-71.

Fainstein, Susan and Dennis Judd. 1999. "Global forces, local strategies and urban tourism." Taken from: *The tourist city*. Eds. Dennis Judd and Susan Fainstein. Yale University Press: New Haven. Pp. 1-20.

Feser, E. (2003). What regions do rather than make: A proposed set of knowledge-based occupation clusters. *Urban Studies* Vol. 40(10). Pp. 1937-1958.

Glaeser, Edward, Jed Kolko and Albert Saiz. 2001. Consumer city. *Journal of Economic Geography*. Vol 1 (1) pp. 27-50

Grodach, C. and Loukaitou-Sideris, A. (2007). Cultural development strategies and urban redevelopment. *International Journal of Cultural Policy*. Volume 13(4). Pp 349 – 370.

Keegan, Robin, Neil Kleiman, Beth Seigel and Michael Kane. 2005. *Creative New York*. New York: Center for an Urban Future.

Koo, J. (2005). How to analyze the region with occupation data. *Economic Development Quarterly*, Vol. 19(4). Pp. 356-372.

Lloyd, Richard. 2002. Neo-bohemia: Art and neighborhood redevelopment in Chicago. *Journal of Urban Affairs* Vol.24 (5). Pp. 517-532.

-- 2005. *Neo-bohemia: Art and commerce in the postindustrial city*. New York: Routledge.

Markusen, Ann(2004)'Targeting Occupations in Regional and Community Economic Development', *Journal of the American Planning Association*,70:3,253 — 268

Markusen, Ann and King, David. July 2003. The artistic dividend: The arts' hidden contributions to regional development. Project on Regional and Industrial Economics. Humphrey Institute of Public Affairs: University of Minnesota.

Markusen, Ann; Schrock,Greg and Cameron, Martina. March 2004. The artistic dividend revisited. Project on Regional and Industrial Economics Humphrey Institute of Public Affairs: University of Minnesota.

Markusen, Ann and Greg Schrock. 2006a. The distinctive city: Divergent patterns in growth, hierarchy and specialization. *Urban Studies*. Vol. 43 (8). Pp. 1301-1323.

--2006b. The artistic dividend: Urban specialization and economic development implications. *Urban Studies*. Vol. 43 (10). Pp. 1661-1686.

Markusen, Ann, Sam Gilmore, Amanda Johnson, Titus Levi, and Andrea Martinez. 2006. *Crossover: How artists build careers across commercial, nonprofit and community work*. Project on Regional and Industrial Economics, Humphrey Institute of Public Affairs, University of Minnesota.

Markusen, A., Wassall, G.H., DeNatale, D. and Cohen, R. (2008). Defining the creative economy: Industry and occupational approaches. *Economic Development Quarterly*. Vol 22 (1). Pg. 24-45.

Massey, Doreen. 1984. *Spatial divisions of labor*, Methuen: New York.

Molotch, Harvey. 1996. L.A. as design product: How art works in a regional economy. Taken from: *The City: Los Angeles and Urban Theory at the End of the Twentieth Century*. Eds: Scott, Allen J. and Edward W. Soja. Los Angeles: University of California Press

--2002. Place in product. *International Journal of Urban and Regional Research*. Vol. 26 (4). Pp. 665-88.

National Endowment for Science, Technology and the Arts (2008). *Beyond the Creative Industries* (ed. Peter Higgs, Stuart Cunningham and Hasan Bakhshi). London, UK: NESTA.

Nelson, M. K. 2003. *Producer services, agglomeration economies and intra-metropolitan location: The public accounting industry in the Chicago and Minneapolis-St. Paul regions*. PhD dissertation, Rutgers University.

Otis and LAEDC. 2007. *Report on the creative economy of the Los Angeles region*. Prepared by the Los Angeles Economic Development Corporation for the Otis College of Art and Design.

Plaza, Beatrice. 2006. The Return on investment of the Guggenheim Museum Bilbao. *International Journal of Urban and Regional Research*. Vol 30 (2). Pp. 452-67

Porter Michael. 1998. Clusters and the new economics of competition. *Harvard Business Review*. pp. 77-90.

Renski, H., Koo, J. and Feser, E. (2007). Differences in labor versus value chain industry clusters: An empirical investigation. *Growth and Change*. Vol. 38 (3). Pp 364-395.

Robinson, D. (1961) The economics of fashion demand. *Quarterly Journal of Economics*, 75: 376–398.

Sassen, Saskia and Frank Roost. 1999. “The city: Strategic site for the global entertainment industry”. Taken from: *The tourist city*. Eds. Dennis Judd and Susan Fainstein. Yale University Press: New Haven. Pp. 143-154

- Scott, Allen. (2000). *The cultural economy of cities*. London: Sage Publications.
- 2005. *Hollywood: The place, the industry*. Princeton: Princeton University Press.
- Simmel, G. (1904) Fashion. *American Journal of Sociology*, 52: 541–548.
- Stolarick, Kevin and Florida, R (2007). Creativity, Connections and Innovation: A Study of Linkages in the Montréal Region. *Environment and Planning A*, vol ??, no ?, pp?
- Strom, Elizabeth. 2002. Converting pork into porcelain: Cultural institutions and downtown development. *Urban Affairs Review*. Vol. 38 (1). Pp. 3-21.
- Thompson, W.R. and Thompson, P.R. (1985). From industries to occupations: Rethinking local economic development. *Economic Development Commentary*. Vol. 9, No. 3.
- Veblen, T. (Originally 1899) (1994) *The Theory of the Leisure Class*. New York: Penguin Classics.
- Wassall G.H. and DeNatale, D. (1997). *Arts, cultural and humanities in the New England economy, 1996*. Boston: New England Foundation for the Arts.
- Zukin, Sharon. 1989. *Loft living: Culture and capital in urban change*. New Jersey: Rutgers University Press.

**Table 1: Summary Statistics for National Occupation Data (n=Core-Based Statistical Area)**

Variable	N (Metro regions)	Mean Employment	Standard Deviation	Minimum Metro Region Employment	Maximum Metro Region Employment	Mean LQ	LQ Standard Deviation	Minimum Metro Region LQ	Maximum Metro Region LQ
Total Employment	406	366,467	767,835	15,700	8,110,630				
Arts, design, entertainment, sports, and media occupations (GROUP)	406	5,464	17,417	30	181,290	0.35	0.64	0.00	3.98
Actors	406	121	1,491	0	21,620	0.42	0.62	0.00	5.12
Archivists	406	11	67	0	1,070	0.25	0.71	0.00	7.68
Art directors	406	99	412	0	5,210	0.06	0.53	0.00	10.04
Choreographers	406	24	101	0	1,160	0.20	1.05	0.00	15.57
Commercial and industrial designers	406	91	366	0	4,410	0.15	0.95	0.00	12.37
Craft artists	406	2	12	0	130	0.18	0.75	0.00	11.19
Curators	406	17	64	0	760	0.22	0.86	0.00	9.92
Dancers	406	25	152	0	1,560	0.22	0.79	0.00	7.55
Editors	406	303	1,187	0	16,260	0.54	0.93	0.00	5.60
Fashion designers	406	52	476	0	6,530	0.84	0.66	0.00	3.22
Fine artists, including painters, sculptors, and illustrators	406	16	81	0	1,050	0.25	0.67	0.00	6.05
Multi-media artists and animators	406	74	368	0	4,560	0.10	0.41	0.00	3.72
Music directors and composers	406	15	104	0	1,520	0.21	0.60	0.00	4.83
Musicians and singers	406	129	691	0	9,040	0.09	1.23	0.00	24.52
Photographers	406	75	223	0	2,050	0.15	0.55	0.00	4.35
Producers and directors	406	202	967	0	10,130	0.37	0.82	0.00	5.39
Writers and authors	406	116	423	0	4,460	0.14	0.52	0.00	5.09

**Table 2: Summary Statistics for Industry Establishment Data (n=Core-Based Statistical Area)**

Variable	N (Metro Regions)	Mean Metro Estab.	Standard Deviation	Minimum Metro Estab.	Maximum Metro Estab.	Mean Metro Estab. LQ	Standard Deviation	Minimum Metro Estab. LQ	Maximum Metro Estab. LQ
TOT_EST	382	18,357.1	41,801	792	536,845				
Publishing Industries (except Internet)	382	80.7	206	1	2,533	0.71	0.51	0.01	3.75
Motion Picture and Video Industries	382	60.9	335	0	5,607	0.47	0.50	0.00	7.97
Broadcasting (except Internet)	382	23.2	42	0	452	0.87	0.64	0.00	3.54
Performing Arts, Spectator Sports, and Related Industries	382	107.4	567	0	9,344	0.64	0.92	0.00	9.21
Museums, Historical Sites, and Similar Institutions	382	15.8	31	0	396	0.69	0.88	0.00	6.02
Amusement, Gambling, and Recreation Industries	382	173.5	340	2	4,360	0.99	0.70	0.08	6.53

**Table 3: Summary Statistics for Industry Employment Data (n=Core-Based Statistical Area)**

Variable	N (Metro Regions)	Mean Metro Emp.	Standard Deviation	Minimum Metro Emp.	Maximum Metro Emp.	Mean Metro Estab. LQ	Standard Deviation	Minimum Metro Estab. LQ	Maximum Metro Estab. LQ
TOT_EMP	382	291,146.2	646,973	10,806	7,558,206				
Publishing Industries (except Internet)	382	2,836.2	8,527	2	108,361	0.80	0.40	0.07	2.46
Motion Picture and Video Industries	382	765.5	5,899	0	110,145	0.57	0.38	0.00	5.08
Broadcasting (except Internet)	382	728.8	2,214	0	32,719	1.32	0.78	0.00	4.05
Performing Arts, Spectator Sports, and Related Industries	382	1,065.1	3,785	0	51,062	0.63	0.41	0.00	4.80
Museums, Historical Sites, and Similar Institutions	382	310.9	922	0	12,880	1.21	0.74	0.00	4.63
Amusement, Gambling, and Recreation Industries	382	3,381.5	7,527	41	70,955	1.14	0.36	0.27	3.42

**Table 4: Top Five Occupations within Artistic Industries (entire U.S.)<sup>1</sup>**

Industry	% of Ind Total	Occupation Titles
Artists	14.38%	Artists And Related Workers
	12.10%	Musicians, Singers, And Related Workers
	9.60%	Writers And Authors
	4.75%	Athletes, Coaches, Umpires, And Related Workers
	3.77%	Actors
Broadcasting	8.06%	Advertising Sales Agents
	7.86%	Telecommunications Line Installers And Repairers
	7.43%	Producers And Directors
	6.16%	Customer Service Representatives
	5.71%	Announcers
Recording	18.26%	Broadcast And Sound Engineering Technicians And Radio Operators
	11.90%	Musicians, Singers, And Related Workers
	7.29%	Managers, All Other
	5.39%	Producers And Directors
	3.35%	Marketing And Sales Managers

**Table 5: Top Five Industries for Artistic Occupations (entire U.S.)**

Occupation	% of Occup Total	Industry Titles
Dancers	42.72%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	31.55%	Drinking Places, Alcoholic Beverages
	11.17%	Other Amusement, Gambling, And Recreation Industries
	2.68%	Restaurants And Other Food Services
	2.36%	Other Schools, Instruction, And Educational Services
Entertainers	40.37%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	19.62%	Other Amusement, Gambling, And Recreation Industries
	8.91%	Drinking Places, Alcoholic Beverages
	5.11%	Motion Pictures And Video Industries
	4.54%	Other Personal Services
Musicians	46.44%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	31.18%	Religious Organizations
	3.10%	Restaurants And Other Food Services
	2.51%	Sound Recording Industries
	1.98%	Drinking Places, Alcoholic Beverages



**Table 8: Location Quotient Correlations Among Artistic Occupations (LQs)**

<b>Correlation</b>	<b>Occupations</b>
0.771	27-2011 (Actors) & 27-2099 (Entertainers and performers, all other)
0.683	27-1011 (Art directors) & 27-1014 (Multi-media artists and animators)
0.673	27-0000 (Overall Arts, Design, Entertainment) & 27-2012 (Producers and directors)
0.628	27-1014 (Multi-media artists and animators) & 27-2012 (Producers and directors)
0.618	27-0000 (Overall Arts, Design, Entertainment) & 27-1024 (Graphic designers)
0.604	27-0000 (Overall Arts, Design, Entertainment) & 27-1014 (Multi-media artists/animators)
0.584	27-0000 (Overall Arts, Design, Entertainment) & 27-3031 (Public relations specialists)
0.584	27-0000 (Overall Arts, Design, Entertainment) & 27-3041 (Editors)
0.575	27-1014 (Multi-media artists and animators) & 27-2011 (Actors)
0.560	27-1011 (Art directors) & 27-2012 (Producers and directors)

**Table 9: Summary Statistics for National Occupation Data (n=30 Largest Core-Based Statistical Area)**

<b>Variable</b>	<b>N (Metro regions)</b>	<b>Mean Employment</b>	<b>Standard Deviation</b>	<b>Mean LQ</b>	<b>LQ Standard Deviation</b>
Total Employment	30	2,007,506	1,585,186		
Arts, design, entertainment, sports, and media occupations (GROUP)	30	32,414	41,199	1.08	0.38
Actors	30	831	3,937	0.43	1.58
Archivists	30	101	208	0.79	0.88
Art directors	30	677	1,010	1.18	0.69
Choreographers	30	163	277	0.54	0.84
Commercial and industrial designers	30	600	940	1.14	1.68
Craft artists	30	20	36	0.33	0.56
Curators	30	122	155	0.84	0.82
Dancers	30	184	387	0.58	1.02
Editors	30	1,946	3,047	1.04	0.67
Fashion designers	30	376	1,259	0.79	1.72
Fine artists, including painters, sculptors, and illustrators	30	117	204	0.70	0.73
Multi-media artists and animators	30	569	923	1.20	1.03
Music directors and composers	30	114	285	0.70	1.10
Musicians and singers	30	855	1,817	0.79	0.73
Photographers	30	397	577	0.42	0.54
Producers and directors	30	1,311	2,396	1.00	0.76
Writers and authors	30	854	1,096	1.19	0.97

**Table 10: Summary Statistics for Industry Employment Data (n=30 Largest Core-Based Statistical Area)**

Variable	N (Metro Regions)	Mean Metro Emp.	Standard Deviation	Mean Metro Estab. LQ	Standard Deviation
TOT_EMP	30	1,943,381	1,449,764		
Publishing Industries (except Internet)	30	22,749	21,328	1.17	0.64
Motion Picture and Video Industries	30	7,412	20,159	0.94	1.35
Broadcasting (except Internet)	30	4,942	6,314	0.89	0.39
Performing Arts, Spectator Sports, and Related Industries	30	8,745	10,770	1.11	0.52
Museums, Historical Sites, and Similar Institutions	30	2,384	2,367	1.10	0.43
Amusement, Gambling, and Recreation Industries	30	23,334	15,512	1.15	0.72

**Table 11: Top Five Occupations Within Artistic Industries (30 Largest Metropolitan Regions)**

Industry	% of Ind Total	Occupation Titles
Artists	13.11%	Musicians, Singers, And Related Workers
	10.88%	Writers And Authors
	10.10%	Artists And Related Workers
	8.54%	Actors
	3.32%	Agents And Business Managers Of Artists, Performers, And Athletes
Broadcasting	10.48%	Producers And Directors
	6.21%	Advertising Sales Agents
	5.12%	Telecommunications Line Installers And Repairers
	4.39%	Broadcast And Sound Engineering Technicians And Radio Operators
	4.37%	Customer Service Representatives
Recording	14.77%	Broadcast And Sound Engineering Technicians And Radio Operators
	11.72%	Musicians, Singers, And Related Workers
	8.12%	Managers, All Other
	4.62%	Marketing And Sales Managers
	4.62%	Producers And Directors

**Table 12: Top Five Industries for Artistic Occupations (30 Largest Metropolitan Regions)**

Occupation	% of Occup Total	Industry Titles
Dancers	62.58%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	15.48%	Drinking Places, Alcoholic Beverages
	6.77%	Other Amusement, Gambling, And Recreation Industries
	3.23%	Motion Pictures And Video Industries
	2.90%	Other Schools, Instruction, And Educational Services
Entertainers	48.08%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	16.73%	Other Amusement, Gambling, And Recreation Industries
	11.54%	Motion Pictures And Video Industries
	4.62%	Restaurants And Other Food Services
	3.46%	Other Personal Services
Musicians	59.77%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	17.06%	Religious Organizations
	4.77%	Sound Recording Industries
	3.35%	Restaurants And Other Food Services
	1.93%	Drinking Places, Alcoholic Beverages

**Table 13: Summary Statistics for New York City, Los Angeles and Chicago Metropolitan Areas**

Variable	New York City		Los Angeles		Chicago	
	Employment	LQ	Employment	LQ	Employment	LQ
Total Employment	8,110,630		5,516,070		4,354,470	
Arts, design, entertainment, sports, and media occupations (GROUP)	172,360	1.65	181,290	2.54	50,540	0.90
Actors	n/a	n/a	21,620	8.57	n/a	n/a
Archivists	1,070	3.18	240	1.05	470	2.60
Art directors	5,210	2.85	2,720	2.19	1,440	1.47
Choreographers	1,160	1.15	670	0.98	260	0.48
Commercial and industrial designers	3,020	1.53	1,880	1.40	700	0.66
Craft artists	n/a	n/a	n/a	n/a	40	0.28
Curators	760	1.39	290	0.78	140	0.48
Dancers	1,350	1.34	1,560	2.27	370	0.68
Editors	16,260	2.71	5,170	1.27	3,680	1.14
Fashion designers	6,530	8.08	2,630	4.79	100	0.23
Fine artists, including painters, sculptors, and illustrators	1,050	1.62	n/a	n/a	n/a	n/a
Multi-media artists and animators	2,680	1.81	4,560	4.53	630	0.79
Music directors and composers	1,520	2.84	n/a	n/a	330	1.15
Musicians and singers	9,040	2.88	5,260	2.46	n/a	n/a
Photographers	n/a	n/a	2,050	0.83	1,540	0.79
Producers and directors	10,130	2.76	9,760	3.90	1,430	0.72
Writers and authors	4,340	1.62	2,670	1.47	n/a	n/a

**Table 14: Summary Statistics for Industry Employment Data (n=30 Largest Core-Based Statistical Area)**

Variable	New York City		Los Angeles		Chicago	
	Employment	LQ	Employment	LQ	Employment	LQ
TOT_EMP	7,558,206		5,258,503		4,024,918	
Publishing Industries (except Internet)	108,361	1.47	37,339	073	34,579	0.88
Motion Picture and Video Industries	31,481	1.58	110,145	7.97	7,269	0.69
Broadcasting (except Internet)	32,719	1.73	18,826	1.43	5,890	0.58
Performing Arts, Spectator Sports, and Related Industries	51,062	1.85	42,093	2.19	12,338	0.84
Museums, Historical Sites, and Similar Institutions	12,880	1.60	3,847	0.69	5,695	1.32
Amusement, Gambling, and Recreation Industries	68,231	0.78	70,955	1.16	40,885	0.87

**Table 15: Top Occupations Within Artistic Industries (New York City)**

Industry	% of Ind Total	Occupation Titles
Artists	13.47%	Musicians, Singers, And Related Workers
	11.53%	Writers And Authors
	10.89%	Artists And Related Workers
Broadcasting	10.66%	Producers And Directors
	6.29%	Advertising Sales Agents
	4.72%	Customer Service Representatives
Recording	14.29%	Broadcast And Sound Engineering Technicians And Radio Operators
	10.03%	Musicians, Singers, And Related Workers
	7.27%	Managers, All Other

**Table 16: Top Occupations Within Artistic Industries (Los Angeles)**

Industry	% of Ind Total	Occupation Titles
Artists	13.28%	Musicians, Singers, And Related Workers
	11.47%	Actors
	10.42%	Writers And Authors
Broadcasting	11.63%	Producers And Directors
	5.65%	Advertising Sales Agents
	5.44%	Telecommunications Line Installers And Repairers
Recording	14.12%	Broadcast And Sound Engineering Technicians And Radio Operators
	13.43%	Musicians, Singers, And Related Workers
	9.03%	Managers, All Other

**Table 17: Top Occupations Within Artistic Industries (Chicago)**

Industry	% of Ind Total	Occupation Titles
Artists	10.99%	Artists And Related Workers
	10.80%	Musicians, Singers, And Related Workers
	10.04%	Writers And Authors
Broadcasting	7.65%	Advertising Sales Agents
	6.85%	Telecommunications Line Installers And Repairers
	6.04%	Customer Service Representatives
Recording	23.21%	Broadcast And Sound Engineering Technicians And Radio Operators
	10.71%	Musicians, Singers, And Related Workers
	7.14%	Managers, All Other

**Table 18: Top Industries for Artistic Occupations (New York City)**

Occupation	% of Occup Total	Industry Titles
Dancers	71.01%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	13.04%	Drinking Places, Alcoholic Beverages
	4.35%	Other Amusement, Gambling, And Recreation Industries
Entertainers	51.61%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	10.75%	Other Amusement, Gambling, And Recreation Industries
	6.99%	Motion Pictures And Video Industries
Musicians	62.16%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	18.11%	Religious Organizations
	4.07%	Sound Recording Industries

**Table 19: Top Industries for Artistic Occupations (Los Angeles)**

Occupation	% of Occup Total	Industry Titles
Dancers	58.52%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	17.04%	Drinking Places, Alcoholic Beverages
	8.89%	Other Amusement, Gambling, And Recreation Industries
Entertainers	44.98%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	20.42%	Other Amusement, Gambling, And Recreation Industries
	15.22%	Motion Pictures And Video Industries
Musicians	61.60%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	11.38%	Religious Organizations
	6.17%	Sound Recording Industries

**Table 20: Top Industries for Artistic Occupations (Chicago)**

Occupation	% of Occup Total	Industry Titles
Dancers	45.95%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	18.92%	Drinking Places, Alcoholic Beverages
	10.81%	Other Schools, Instruction, And Educational Services
Entertainers	53.33%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	17.78%	Other Amusement, Gambling, And Recreation Industries
	8.89%	Restaurants And Other Food Services
Musicians	43.97%	Independent Artists, Performing Arts, Spectator Sports, And Related Industries
	33.85%	Religious Organizations
	3.11%	Restaurants And Other Food Services
	2.33%	Sound Recording Industries

---

<sup>i</sup> Occupational data from two sources is used. The first is the standard list of occupation titles (30,646) that were reported in the 2000 Census as part of the *demographic* Census “industry and occupation” reporting. This data was collected from the one-in-five households that completed the Census “long” form. The job titles on this list are the ones reported by individuals working in those jobs or reported by a person in the household for that person. Under the heading of “Occupation”, the form specifically asked “What kind of work was this person doing? (For example: registered nurse, personnel manager, supervisor of order department, auto mechanic, accountant).” This was followed by a clarification question on job duties. The responses provided on these questions formed the basis of the Standard Occupation Classification (SOC) System that is used by both the Bureau of the Census (Census) and the Bureau of Labor Statistics (BLS). In analyzing these responses, Census also used information on job duties, industry, education levels, company worked for, and other data to assign an individual to a specific occupation. The SOC forms the basis for the second occupational data source – the Occupational Employment Statistics (OES) program from the BLS.

The OES program collects information from employers (the self-employed are not included in this survey) at the regional level (previously known as the metropolitan statistical area (MSA); now the core-based statistical area, (CBSA)). Data on number of employees and wages paid is collected and summarized. BLS reports at the broad metropolitan and state levels on the number of employees, average salary, hourly wage, which, when reported, is always annual salary divided by 2,080 (52 x 40), and wage distribution characteristics for approximately 800 occupations. The 2005 survey reports on 820 individual occupations which BLS reports as being summarized as follows. “All workers are classified into one of over 820 occupations according to their occupational definition. To facilitate classification, occupations are combined to form 23 major groups, 96 minor groups, and 449 broad occupations. Each broad occupation includes detailed occupation(s) requiring similar job duties, skills, education, or experience.” (<http://www.bls.gov/soc/home.htm>). The 2005 results, which are used here, include 797 occupations which are summarized into 444 broad occupations, 93 minor groups, and 22 major groups.

Industry level data is obtained from the Census Bureau’s County Business Patterns (CBP) data set. The CBP reports by year for each state and county, the total number of employees and the total number of establishments by industry. The North American Industry Classification System (NAICS) is used to identify specific industries. NAICS is a multi-level classification system with a higher number of digits (starting with two and going up to 6) used for greater and greater level of details. At the national level, 5 and 6 digit reporting is provided, but at finer geographies, less detailed information is provided to avoid disclosure problems.

The final set of data used in this analysis is the 2000 Public Use Micro Sample (PUMS) from the U.S. Bureau of the Census. The 5% PUMS sample has been used. A smaller 1% sample is also available). The PUMS includes data for a random sample of households and their respective individuals that complete the long form. Some data values are top-coded to prevent disclosure and all location information is removed and replaced with a Public Use Micro Sample Area (PUMA) code. PUMA are uniquely defined for the PUMS from Census tracts, remain within state but not county or MSA boundaries, and encompass approximately 100,000 residents. The PUMS provides data on a random sample of those residents. For this analysis, in addition to location information only three specific pieces of information were used: occupation, industry, and worker class. Only information on those who were currently working was retained. This results in specific information on occupation and industry for a random sample of the entire U.S. working population.