

TECHNICAL APPENDIX

The North American Industry Classification System (NAICS) and the Standard Industry Classification (SIC). Just as we are at a crossroads in defining industries in the New Economy, the sources of data used for industry analysis is in a state of transition. Previously, all economic analysis of industries was based upon the Standard Industrial Classification (SIC) system, used by Federal and State agencies to collect and analyze employment and sales data in the economy. This SIC standard is being changed to account for the transformation in the industrial structure of the New Economy. The new system, The North American Industrial Classification System (NAICS), was developed by US, Canadian and Mexican official as a unified system for classifying economic entities in the economy. All economic data sources are transitioning to this new system over the next five years. As of 2000, only the 1997 Economic Census of the U.S. Department of Commerce has provided comprehensive and usable economic data using the NAICS system. One limitation of using data from the NAICS system is that the most current year available is 1997. Another limitation is that there no historical data yet available. Despite these limitations, the research team used data in the NAICS form whenever possible for two reasons. First, the NAICS system is more inclusive and more accurate in its definitions of entities in the arts and cultural sector. Second, use of an old classification system such as the SIC will not serve the other purpose of this project; that is, to develop a new database on the “creative cluster” that will be relevant for years to come. Finally, the research team made up for the lack of historical data in the NAICS system by using data in the form of the old SIC to highlight general historical trends in creative cluster employment.

The Current Population Survey (CPS) and the Occupational Employment Statistics (OES). The OES produces occupational employment and wage estimates for over 750 occupations. It is a cooperative program between the Bureau of Labor Statistics (BLS) and the State Employment Security Agencies (SESAs). The research team used data from the OES program to highlight occupational employment projections over a ten year period. The projections highlight growth and decline in certain artist related occupations. The OES program's major limitation is that it only counts full and part-time workers on the payroll of an incorporated establishment. Data from the OES program, therefore, does not adequately count self-employed workers in the labor market. The research team uses OES data only to highlight ten year occupational projections, while CPS data is used to capture a more complete picture of the full range of occupational characteristics of artists and creative workers.

Both the OES and CPS will be using a new, updated classification in the years to come. Much like the transition of industry classification systems from the SIC to the NAICS, current occupational classification systems of the OES and CPS will change to a universal Standard Occupational Classification (SOC) system. The SOC was developed in response to a growing need for a universal occupational classification system. Data from the OES program will be based on the new classification system and available in early 2001 while data from the CPS will be based on the new classification for the first time in 2003.

Definition of the Creative Cluster. Mt. Auburn Associates, along with a working subcommittee of the Creative Economy project, arrived at the definition of the creative cluster through extensive research and discussion on the subject. First, Mt. Auburn conducted a literature review of the universe of models, practical applications, and studies which defined and mapped the arts and cultural industries. Most of the previous thought and research in defining the arts beyond traditional non-profit boundaries originates from Europe, Australia, and Canada. For example, the Statistics Canada Cultural Statistics Program developed a new

framework for their so-called “cultural industries” on the basis that “a more comprehensive framework which transcends the boundaries of existing classifications is needed to fully delineate all the activities, businesses, individuals, industries, organizations, institutions, products and services that might constitute the culture infrastructure of general interest.” This framework defined 16 cultural categories, seven functional elements (creation, production, preservation, manufacturing, distribution, support and consumption), and 51 industries. Perhaps because of the similar context and applicability to the US as well as the thoroughness of the definition, the research team used the definitions and guiding principles of the Canadian framework extensively. Other foreign countries with a highly developed framework and understanding of the cultural industries in their economies include Great Britain and Australia. The research team used many of the principles and thoughts articulated by Great Britain's new Creative Industries Task Force and its “Creative Industries Mapping Document” as well as Australia's National Cultural and Leisure Statistical Framework.

As a second cut, Mt. Auburn Associates used a number of criteria to determine creative industries more indigenous to New England. Two of the criteria used include a high concentration of creative workers prevalent in an industry and industries that rely heavily on creative content in production. For example, while the textile and apparel industries were included in the definition in England, it was not included in the New England definition since the design element in the industry in New England is not as critical component as it is in London.

Definition of the Creative Occupations. Mt. Auburn primarily used a definition from the National Endowment for the Arts to determine which occupations to include as “creative.” The 1996 National Endowment for the Arts *Artists in the Workforce* study by Neil O. Alper, Gregory Wassall, et. al. includes in its definition eleven occupational categories. They are actors & directors, announcers, architects, art, drama & music teachers, authors, dancers, designers, musicians & composers, painters, sculptors, & craft artists, photographers, and artists & performers not elsewhere classified. Mt. Auburn included three other occupational categories to this list because of their creative content and unique concentration and contribution to the creative cluster in New England. The three additional categories include archivists & curators, cabinet makers & bench carpenters, and hand painters, coaters, & decorators. In addition, Mt. Auburn used previous thought and research from abroad in defining the arts (much like the process used to arrive at which industries to include in the creative cluster as explained above) to test and match the final list of 14 occupational categories included. In general, where questions arose, the research team used a conservative approach and excluded them from the creative occupation definition for this study. To cite just one example, a similar framework in developed by the Statistics Canada Cultural Statistics program includes three occupational categories, audio and video recording technicians, camera operators, and broadcast technicians, in its definition of arts related occupations. Our study of New England's creative occupations, on the other hand, excluded them from the definition.

Definition of Cultural Tourism. The research team defined cultural tourism as those visits in New England that occur *primarily* because of a cultural event or attraction. It is important to note that many definitions of cultural tourism simply count the full impacts of any tourist visit if the visit included a cultural event, even though the primary reason for the visit was something other than cultural (e.g. business convention, athletic event, summer vacation, etc.). The research team chose to use a more conservative approach and used estimates that only counted those visits that resulted for the primary reason of attending a cultural event. The research team also distinguished between the impact from visitors originating from outside New England and those originating from inside. Cultural tourists from outside New England have a greater impact on the

economy as they bring net new income into the region. Cultural tourists originating from within New England primarily re-circulate money through the economy.

To calculate the total impact of cultural tourism in the region from visitors originating outside New England, Mt. Auburn assumed that, at a minimum, between 13.7 and 15.8 percent of domestic tourists and 25 percent of international tourists visited primarily for the region's cultural assets. The research team derived estimates for each New England state from discussion with individual offices of tourism in New England and visitor profile reports. The international estimate is consistent with research conducted by the Travel Industry Association of America and New York City Visitors and Convention Bureau.

Cluster Comparison. Mt. Auburn Associates collected and analyzed a number of New England based industry cluster studies and reports in order to select a few key clusters for illustrative and comparison purposes with the creative cluster. Six clusters were selected. Three of the six were selected because they represent prominent components of the New England economy (financial services, health services, and computers and communication hardware). The other three clusters were selected because they are growing and highly recognized components of New England's "new economy" (software and communication services, health care technology/biotechnology, and innovation services). Definitions for each of these industry clusters were derived from two cluster studies: *Index of the Massachusetts Economy* released by the Massachusetts Technology Collaborative in 1999 and *Meeting the Challenge of the New Economy: Keys to Building Hope* released by the Rhode Island Economic Policy Council in 1997. Comparisons between the six key industry clusters in New England and the creative cluster should be used to illustrate, in general, the significance of each cluster relative to the creative cluster. Definitive and direct comparisons should be taken with caution for two reasons. First, most of the data for the creative cluster is from the US Census Bureau's 1997 US Economic Census while data for the six New England clusters is from the US Census Bureau's 1997 County Business Patterns. The difference in use is largely due to availability and definitional issues. For the purposes of this study, it was important to use the Economic Census data for the definition of the creative cluster. The 1997 Economic Census uses the new NAICS industry classification system which more adequately captures the creative cluster's scope and breadth. On the other hand, much of the 1997 Economic Census data is still unavailable. For example, there is limited employment data available for many traditional industry classifications such as manufacturing and services for the New England states. Where data availability was an issue, Mt. Auburn used the County Business Patterns. The County Business Patterns' major limitation is that it still relies upon the old SIC industry classification system. The second reason to use caution with definitive and direct comparisons in the cluster comparison is that Mt. Auburn included unincorporated self-employed artists in the creative cluster employment totals. Self-employed artists are included in the total because, unlike most other industry groups, they make up such a large and important component of employment in the creative economy. Dr. Greg Wassall of Northeastern University generated a special data set from the Current Population Survey to arrive at the total of unincorporated self-employed individuals in New England. Comparable data for the six selected key industry clusters was not available. Despite this limitation, it is unlikely that the concentration of unincorporated self-employed individuals among these industry clusters would significantly impact their employment totals.

Cluster Growth. The data on cluster growth was based upon the use of SIC codes as NAICS codes are not available for past years. The data source for this analysis was the U.S. Census Country Business Patterns, since this was the only source that provided comparable data at the 4-digit SIC code for each New England state. Some elements of the "Creative Cluster" were not included in the analysis since in some instances (i.e.

Art galleries) the component of the creative cluster is included in a larger SIC code and could not be disaggregated

Harvard University Arts Related Employment. The total calculation of 847 arts related jobs at Harvard University was prepared by Mt. Auburn Associates through cooperation from Harvard's Office for the Arts and Personnel Department. The total includes faculty jobs in six academic departments (Office for the Arts, Graduate School of Design, Department of History and Literature, Department of Visual and Environmental Studies, Department of History of Art and Architecture, and the Department of Music), staff in six performing arts venues (Loeb Drama Center, American Repertory Theatre, Agassiz Theatre, Rieman Center for the Performing Arts, Paine Hall, and Memorial Hall/Sanders Theatre), and staff in six museums and centers for visual arts (Busch-Reisinger Museum, Fogg Art Museum, Arthur M. Sackler Museum, Harvard Theatre Collection, Harvard Fine Arts Library, and the Carpenter Center for the Visual Arts).