

Creative Economy Research in New England: A Reexamination

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I. Introduction

In recent years, the concept of the “creative economy” has gained broad and avid interest among a range of communities seeking to foster local economic growth. The primary proposition of this movement has been that creative enterprises and individuals provide a significant contribution to local and regional economies, and that their contribution fuels other sectors of the economy in unique ways. New England has been a significant contributor to this trend, specifically with the establishment of the Creative Economy Initiative in 1998.

This white paper attempts to examine and refine this notion, particularly as it has been applied in New England to describe the economic contributions of the cultural sector. Our goal is to help policy makers, public agencies, and individual practitioners untangle the technical details of identifying the set of organizations and individuals that can be realistically considered a coherent economic sector based upon cultural activity. To that end, we open the discussion toward a defensible and realistic definition of the creative economic sector that can be applied consistently in New England and elsewhere.

The need for definitional clarity has become increasingly acute as applications of the creative economy concept have become more widespread. These applications have opened up new considerations of the connections between commercial, non-profit, and individual creative enterprise. At the same time, they have engendered significant confusion through the appearance of inconsistent approaches and measures. Without a shared framework in which to examine economic processes and relationships, there is no way to comparatively evaluate the findings of individual assessments, or to build analysis in a way that can reliably inform the development of public policy. Without this consistency, one outcome is almost certain: public-sector advocacy for the cultural sector based on claims for the creative economy will be sapped of any long-term value.

Our goal here is not to promote a rigid, one-size-fits-all approach to defining the creative economy, but to set forward a consistent approach for identifying and measuring economic activity driven by the cultural sector. The components of this sector will necessarily vary from region to region, requiring local adjustments based on local characteristics. As we describe below, the nature of the primary data sources upon which economic analysis depends have inherent limitations that must be addressed through such adjustment. We argue that methodological consistency and reliable analysis requires an approach that produces a core set of comparable data and offers a transparent process for local extensions of that definitional core.

This white paper is intended to provide summary background information for participants in a research convening held by the New England Foundation for the Arts (NEFA). This convening will review current definitions of the creative economy as they are applied in New England and elsewhere, in order to develop consensus around the application of creative economy concepts within the region. The aim is to provide a common framework that will assist states, communities, and individual researchers in developing analysis that is consistent and comparable, but also flexible enough to account for local

variations. We also hope to inform research efforts elsewhere in a manner that will foster national consensus and comparability of analysis.

II. The Development of the Creative Economy Research Framework in New England

Although recent, New England's regional experience with the creative economy framework is among the oldest in the nation, beginning with the formal establishment of the New England Creative Economy Initiative in 1998. During this period, there has been a degree of confusion concerning the industries and employment categories that should be considered part of the region's creative economy. This confusion has been partially compounded by the development and application of related ideas outside the region. In this section, we limit our focus within the region. We review the evolution of the creative economy concept as it first developed within New England; we reexamine the core ideas that influenced the original establishment of a New England creative economy definition, and revisit the applications of this definitional framework in the research projects connected to the New England Creative Economy Initiative. In the next section we will provide a brief overview of related and divergent creative economy concepts developed outside the region, and examine the relationships between the definitions employed by a number of prominent studies.

In subsequent sections, we examine the most relevant data sources available for creative economy research and consider their particular characteristics. Finally, we make a set of recommendations for establishing a consistent core set of creative economy categories and a set of principles for adapting these to specific geographic situations.

As we discuss at greater length below, definitions of the creative economy diverge at the point of whether “creative” should be interpreted as culturally based or ideational in nature — using “creative” as a shorthand for cultural expression on the one hand, or intellectual invention on the other. The history of the New England interpretation is centered for the most part on goods and services that are an outcome of expressive culture. At the outset, we note this as an historical fact. Later, we'll return to this as a matter for definitional debate.

Early Development of Creative Economic Research in the Region

Economist Richard Caves notes:

The organization of “creative industries,” in which the product or service contains a substantial element of artistic or creative endeavor, has received surprisingly little attention from economists, with a sole exception: the question whether public subsidy is warranted for the performing arts. . . . Economists, proud of their theoretical apparatus and facility with statistical tools, are put off from industries such as these that yield few congenial data sets (Caves 2000: viii).

While the lack of congenial data sets is an ongoing obstacle to research in this area (and a key factor in shaping the discussion itself), New England has been the fortunate beneficiary of a well-established tradition of economic research directly relevant to understanding the creative economy. With the exception of studies focused on specific

arts disciplines (most notably William Baumol and William Bowen's 1966 examination of cost disease in the performing arts), the first state-wide attempt to quantify the economic contribution of the creative sector (by any definition) was a survey of 285 non-profit Massachusetts arts and humanities organizations in 1973, conducted by the Becker Research Corporation for the Governor's Task Force on the Arts and Humanities. For the first time, this study calculated the economic impact of cultural organizations in a single state through direct and indirect spending.¹

This was followed in 1977 by a statewide economic impact study of arts organizations in Connecticut, conducted by John J. Sullivan and Gregory Wassall for the Connecticut Commission on the Arts. This study, which covered theaters, museums, dance companies, symphony orchestras, and community arts programs, was inspired by a contemporary study of the economic impact of the state's insurance industry, which had caught the attention of the Commission's Executive Director, Anthony Keller.

Keller subsequently advocated for a region-wide study with Thomas Wolf, the Executive Director of the newly established New England Foundation for the Arts. Work on the regional study began in 1978 and was published in 1980 (Wassall *et al.* 1980). A revised version, which incorporated the results from a regional audience survey, was published in 1981 (Wassall *et al.* 1981).

NEFA's first regional economic impact study was path breaking in several aspects. While a number of city- and state-level economic impact studies had been published by this time, nothing on such a scale had yet been attempted. The 1980 study was based on a survey of 2,830 organizations in the six New England states, which were drawn from lists compiled by each of the state arts agencies, and achieved a response rate of 21.6 percent. Furthermore, while the study was titled *The Arts and the New England Economy*, borrowing from the earlier Connecticut study, the reach extended further to reflect the varied constituencies of the six New England statewide cultural agencies, which included the Massachusetts Council on the Arts and Humanities. The cultural organizations surveyed included music organizations, other performing arts organizations, visual arts organizations, historical organizations and libraries, and other cultural organizations.² This broad sweep of non-profit cultural organizations would characterize later NEFA studies as well. It is worth noting at this point, that while the NEFA studies were limited to the non-profit sector, from the beginning they reflected the scope of activity represented within the later creative economy definition employed in the region.

Given the technological and informational resources available, a study of this scale was challenging. Greg Wassall recalled:

¹ This information is taken from an abstract in the Americans for the Arts National Arts Policy Database.

² The music category included "Orchestras (symphony, classical jazz); folk; bluegrass; ethnic groups; choral; opera." Visual arts included "Museums (art, natural history, science); art and craft fairs and festivals; galleries; cinema; historic sites." Other included "Arts councils; public television and radio; literary presses; educational institutions which teach arts exclusively; fraternal, religious and community organizations in their role as arts presenters." Beginning with the 1996 report, a different categorization scheme was used to organization the same universe of organizations.

The cost of this type of study, both in terms of direct outlay of dollars and of time and effort of regional and state agency staffs, was great. The approach which I, as chief researcher, used was to request each state agency to prepare a list of cultural organizations within their borders, and to stratify the organizations in that list by budget size. Then all identified organizations were sent a questionnaire in the mail, requesting information on income, expenses, employment, volunteer time and taxes paid and collected. Knowing that only a percentage of queried organizations would complete and return the questionnaire; projections on to the entire population of organizations from the sample of responders were made, stratified by budget size. These projected amounts could then be added to obtain estimates of total amounts, such as income, spending and employment for the entire state and region. The impact of spending by cultural audiences can only be estimated accurately by questionnaire surveys of audience members, often of necessity while attending a cultural event.

Given the number of questionnaires mailed to organizations, and the limited resources available to follow up with non-respondents from the initial mailing, most of the follow-up effort was devoted to assuring that the pre-identified “large budget” organizations responded [in order] to estimate as accurately as possible the aggregate numbers.

In order to determine the correctness of the methodology and the accuracy of the estimates, such surveys need to be replicated. Another reason for repeat surveying is that the data collected in these survey efforts rapidly becomes dated. Given the large commitment necessary to survey an entire region's cultural organizations and the usual budget issues facing state and regional arts agencies, there was no attempt made to replicate and update the region-wide economic impact study for about a decade. In 1988, under the aegis of then Executive Director of NEFA Holly Sidford, a follow-up study was conducted. This study used essentially the same methodology as the 1978 study, with heavy reliance on data-gathering via direct mail questionnaires (Wassall 2003: 5).

In comparison with the 1978 survey, the 1988 study identified 3,154 organizations in the universe of New England non-profit cultural organizations, and achieved a response rate of 25.2%.

The methodology employed by these non-profit surveys attempted to address two paired issues in calculating the economic activity of the cultural sector. The aim was to determine a reasonable estimate of the overall size and impact of the sector. Methodologically, this required two conditions: first, that the universe of organizations sampled was representative of the actual body of organizations present in the region; and second, that the sample of organizations for which there was data could provide an adequate basis for projecting the characteristics of the entire collection of organizations. The first condition had to rely upon the assumption that through a concerted effort, the

state cultural organizations could identify the majority of cultural organizations in the region.

As Wassall notes, the labor and expense required to develop a dataset through direct survey collection was a disincentive to repetition over time. Here again, NEFA played a significant role in pursuing a sustained effort to repeat the survey, even at ten-year intervals. This commitment was recalled in the mid-1990s when it became time to marshal the effort necessary for a regional study once again.

In 1996, NEFA began work on a new survey, with this paper's authors as principal investigators. A number of significant developments had occurred since the 1988 survey. Within the region, each of the state arts agencies had built their own increasingly sophisticated business-related databases of cultural organizations. On a national level, largely through the efforts of the National Center for Charitable Statistics, non-profit data derived from the Internal Revenue Service's own databases was beginning to become available to the public. For the 1996 study, we drew upon the IRS master list of non-profit organizations for the first time, and collated this information with listings drawn from state agency databases. The resulting list identified 9,841 non-profit cultural organizations in the region — a significant increase over earlier studies — with a correspondingly larger economic impact. While the actual number of direct survey returns remained relatively flat, the IRS list provided some income and asset data for organizations that had recently filed non-profit tax returns. This represented the first time that financial data on an organization level could be drawn from federal sources.

The Boston Symphony Orchestra (BSO) — one of the largest cultural organizations in the region — brought the 1996 study to the attention of the New England Council (NEC), a regional business advocacy organization. In 1998, the NEC, NEFA, and the BSO hosted a one-day event at Tanglewood to discuss the implications of the study and the possibility of extending the scope of research to consider the impact of the for-profit cultural sector as well. A working group, comprised of representatives from NEFA, the New England state arts agencies, and the BSO, was organized under the aegis of the NEC, and subsequently issued a request for proposals for such a study. Mt. Auburn Associates, an economic development consulting firm, was awarded a contract through NEFA as primary managing partner to develop an initial reconnaissance and summary information about the creative economy in New England. The New England Council published the results of that investigation in 2000, with Beth Siegel, President of Mt. Auburn Associates, serving as principal author (Mt. Auburn: 2000). NEFA staff and Gregory Wassall also provided support to the development of the report.

From a conceptual standpoint, Mt. Auburn played a fundamental role in shaping the region's creative economy work by creating a definitional framework that has guided research efforts in the region since. This model is discussed below.

New England's Creative Economy Model

Mt. Auburn identified three primary and interrelated components of the creative economy within the region:

The Creative Cluster, defined as those enterprises and individuals that directly and indirectly produce cultural products. . . .

The Creative Workforce, defined as the thinkers and doers trained in specific cultural and artistic skills who drive the success of leading industries that include, but are not limited to, arts and culture. . . .

The Creative Community, defined as a geographic area with a concentration of creative workers, creative businesses, and cultural organizations (Mt. Auburn: 2000: 5).

Because these domains of economic activity are interrelated, there has been potential for confusion. Simply put, the *Creative Cluster* refers to industry, both commercial and non-profit; the *Creative Workforce* refers to occupation; and the *Creative Community* refers to geography.

In order to belong to the Creative Cluster, an enterprise must produce cultural products as their main function. This industry segment can include individuals who are operating as sole-proprietors, such as self-employed artists who are essentially running their own artistic business. Measurements of the enterprises in the Creative Cluster would include all aspects of these businesses' economic activity: revenues generated, taxes paid, and employment produced. All individuals employed by these businesses are counted in the employment measure, regardless of whether they themselves are involved in the direct production of cultural products, just as they would in any other segment of industry.

Measurements of the Creative Workforce would include all individuals whose primary occupation is to produce cultural goods. Some of these might be employed within the Creative Cluster, but others might be working in other industries altogether, such as a graphic artist employed by a large insurance company.

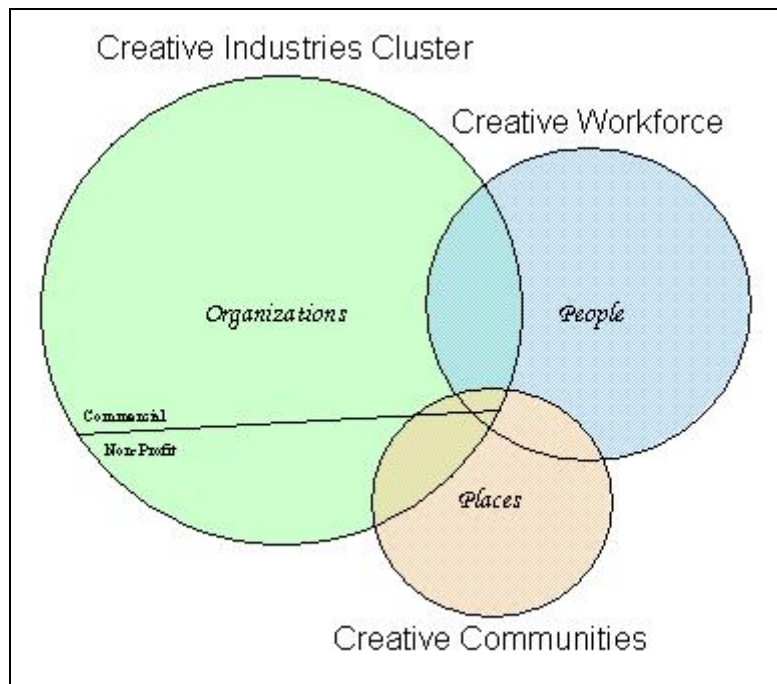
Measurements of the Creative Community would indicate the relative concentration of both Creative Cluster enterprises and creative worker occupations within a particular geographic area.

Within this model developed by Mt. Auburn, a relatively higher concentration of creative enterprises and creative workers in a geographic area yields a competitive edge by elevating the quality of life for the area and improving its ability to attract economic activity.

The competitive edge of a Creative Community is more important than ever in an economic environment like New England, where businesses find that availability

of labor is their biggest challenge. New England's proliferation of arts and cultural activities has supported a growing number of Creative Communities, which already gives the region an advantage when it comes to attracting new businesses and employees (Mt. Auburn 2000: 18).

Subsequent to the publication of the first Creative Economy Initiative report, the following graphic was developed to illustrate the relationship between the domains of activity described in the New England creative economy model:



The New England model was informed by developing theories of cluster-based economic development, an area in which Mt. Auburn holds particular expertise.

Industry clusters are geographic concentrations of competing, complementary, or interdependent firms and industries that do business with each other and/or have common needs for talent, technology, and infrastructure. The firms included in the cluster may be both competitive and cooperative. They may compete directly with some members of the cluster, purchase inputs from other cluster members, and rely on the services of other cluster firms in the operation of their business (Humphrey Institute: 1999).

Because the term “industry cluster” has been commonly applied to geographic concentrations of specialized interrelated industries which convey a competitive advantage in that specific sector of industry, a potential point of confusion in the New

England model has been the use of “creative cluster” to refer to the industry domain. A major finding of the 2000 report was the relative competitive advantage of the region as a whole because of its creative economy presence, and in this light the use of “creative cluster” could be justifiably applied. An alternative terminology, in keeping with that used by Mt. Auburn in its recent examination of the creative economy in Louisiana, would be to refer the three domains of economic activity as enterprises, workers, and communities.³

As we will discuss below, the model developed by Mt. Auburn for the region is the most comprehensive in scope of any creative economy model proposed to date. In general, other models focus upon the contributions of creative industry or the status of the creative workforce — however either of these is defined. The New England model is unique in considering each of these as interrelated domains that need to be considered together. This has charged the region with the ambitious research goal of tracking the characteristics of each of these domains over time.

New England Creative Economy Research Findings and Definitions

The model described above provides an abstract definition of the creative economy within New England. Ideally, one would be able to identify each individual business and creative worker, collect the financial and employment data related to each, and provide a comprehensive measurement of the state of the creative economy and its contributions to a geographic area.

In reality, such a direct collection effort is impossible, due to privacy issues as well as the sheer immensity of such a project. For information about creative workers, there is currently no realistic alternative but to rely on federal and state aggregate data about the status of workers in the economy. For information about industry, there are some public and proprietary data sources that provide data about individual entities. The regional research effort supported by NEFA has made significant progress in building a regional

³ See Mt. Auburn 2005: 21. Specifically, this report uses the terminology “cultural enterprises” and “cultural workers” -- the use of “cultural” rather than “creative” is discussed more fully in the following section of this white paper. A subsequent wording of the creative cluster, creative workforce, and creative community domains appears on the Creative Economy Council website (www.creativeeconomy.org):

The Creative Cluster

This term refers to a group of organizations and professional entities. It includes nonprofit institutions, commercial businesses and individual artists (as sole proprietorships) that produce goods and services based in cultural enterprise, the fine or applied arts.

The Creative Workforce

This group of individual workers may be employed within the creative cluster of industries, in an industry outside the creative cluster (such as a designer at an accounting firm), or they may be self-employed. The creative workforce is composed of individuals whose jobs require a high level of skill in the cultural, fine, or applied arts.

Creative Communities

These are geographic locations within New England where quality of life is directly connected to higher concentrations of creative workers and creative cluster industries. Creative communities understand and value their cultural assets. They support diversity and innovation. These communities are a powerful draw to tourists, but also contribute to the economic stability of New England.

organization-level data resource for the non-profit component of the creative enterprises domain, as well as an organization-level listing of commercial creative enterprises, through its New England Cultural Database.

Nonetheless, federal and state aggregate data remain an essential resource for analyzing the status of creative industries in the region. We discuss the characteristics of the major sources of available data in detail in Section IV below.

The findings of the 2000 Creative Economy Initiative report drew upon several sources of federal economic data. For the *Creative Cluster*, data was extracted from the U.S. Census Bureau's 1997 Economic Census. The report restricted its reporting of economic activity for this domain to employment by creative enterprises.⁴ In order to capture the fuller extent of this domain, the report substituted Economic Census non-profit employment data with the results of the 1996 NEFA report. This was because the NEFA results also captured cultural programs embedded within other types of non-profit institutions, such as universities. For the *Creative Workforce*, information was drawn from the 1996 U.S. Current Population Survey. In a similar effort at greater comprehensiveness, Mt. Auburn collected additional information on elementary and secondary art, drama, and music teacher employment directly from state departments of education and added these figures to the results.

In order to extract data from each of these sources, Mt. Auburn constructed a second, pragmatic definition of each domain based upon the major current federal classification systems relating to industry and occupation. In the case of industry, a set of categories within the 1997 North American Industrial Classification System (NAICS) were selected on the basis of whether a significant majority of the New England businesses contained within each individual category directly produced cultural goods or services. Similarly, for the purpose of extracting workforce statistics, Mt. Auburn selected a specific set of categories from the Standard Occupational Classification System employed by the Bureau of Labor Statistics.

Section IV below discusses the inherent issues involved in identifying creative enterprises and workers within these preexisting category schemes. Because these have evolved from categorizations oriented toward a manufacturing economy, they do not provide consistent or fine-grained detail in relation to creative industries. In their recent study of the cultural economy of Louisiana, the Mt. Auburn team summarizes the issues well:

[One] reason that the importance of cultural industries to the state is often missed is that a lot of the economic value is recorded in other sectors of the economy.

How an enterprise is classified determines how it is counted by state and regional economic analysts. The most important institution in the cultural economy is not even classified as part of the cultural economy—the state's colleges and

⁴ The Economic Census also provides establishment counts, total sales, and annual payroll by industry. The decision to restrict reporting to employment was a contributing factor to some confusion concerning the distinction between the creative cluster and creative workforce.

universities. Other economic activity that is missed includes public sector arts organizations. The employment data on these cultural enterprises are classified as government employment. Finally, many craftspeople sell their work through crafts studios and are included under retail. Many glass and pottery craftspeople and employees of “artisan furniture makers” are classified in manufacturing.

These issues are true throughout the U.S. where economic analysts are undertaking studies of economic clusters. The results of these methodological issues are very real. *What is in reality an extremely important component of the economy is being missed by those who are determining economic development priorities* (Mt. Auburn 2005: 28).

Because of these limitations, measuring the creative economy must be tackled on two levels. The first involves identifying the components of the creative economy in abstract terms — what it would look like if we could capture the activity of each contributing entity. The second involves choosing the categories used to extract data from secondary sources. Because the membership of any category will vary on the ground, in some places it may be valid to select a category that would be too broad someplace else. For example, in a geographic area with a plethora of art potteries and no other type of ceramic manufacturing, it could be reasonably expected that federal data related to the NAICS *Clay Product and Refractory Manufacturing* sector represents creative economy activity. But in most geographic areas, the majority of any data reported under this category will relate to the manufacturing of building materials, plumbing fixtures, and the like.

In the case of New England, the attempt was to make a conservative choice that could be easily defended, knowing full well that a significant portion of industries and workers within the creative economy would be missed. At the same time, the industry and worker categories selected for the 2000 report were based on a definitional scan that was not able to benefit from examining the characteristics of individual enterprises on the ground where the overall membership of a potential category was uncertain.

Subsequent Developments in New England

The 2000 Creative Economy Initiative report garnered significant attention and excitement in the region. In 2001, the working group convened by the New England Council issued a set of policy recommendations for developing the region's competitive advantage in creativity. Issued as *A Blueprint for Investment in New England's Creative Economy*, the policy brief was authored by Beate Becker, who served as project director for the working group.

The New England Foundation for the Arts, which had served as the primary funder and manager of the Initiative's research effort, moved forward with the development of two significant new creative economy research projects. The first of these was the establishment of the New England Cultural Database, an organization-level compilation of data collated from a range of data providers that is intended to reflect the New England

creative economy model when fully developed. NEFA also established an ongoing research report series intended to provide timely and longitudinal analysis on the region. As part of this series, in 2004 NEFA published an update to the research information contained in the 2000 Creative Economy Initiative report. Like the first report, the 2003 update was limited to employment information, but it provided annual trend data for the first time, covering the years 1997 to 2002.

As a mechanism for moving the *Blueprint* recommendations forward, the New England Council organized a second convening at Tanglewood in July 2003, which marked the formal organization of the Creative Economy Council, a partnership organization of the business, government, and cultural sectors. Under the aegis of the Creative Economy Council, a number of targeted initiatives were launched concerning art and technology, the film industry, the design industry, finance, expanding markets, and workforce development. A set of state-specific projects and initiatives were also pursued by groups within each New England state within the context of the Creative Economy Initiative.

From a research perspective, the most significant of the New England state-level projects to date have been the efforts pursued in Maine and Vermont. In Vermont, a state-specific policy blueprint was issued in 2004 as the result of a fourteen-month assessment process conducted by the newly formed Vermont Council on Culture and Innovation. As part of this work, a series of forums and surveys were conducted throughout the state. The economic information advanced as part of the report was drawn largely from secondary sources, including the 2000 Creative Economy Initiative report. With the assistance of the Vermont Department of Taxes, the VCCI conducted new case research on tax revenues related to specific cultural development. In two case studies of tax revenue from the towns of Vergennes and Rockingham, dramatic increases in local meals and sales taxes could be correlated with the renovation of the Vergennes Opera House and the restoration of the Exner Block in Rockingham for cultural development (VCCI 2004: 25-26, 28-29).

In Maine, the Blaine House Conference on the creative economy, convened by the Governor, was held in May 2004. In preparation for the conference, researchers from the Edmund S. Muskie School of Public Service, along with the authors of this white paper, produced an analysis of the creative enterprises and creative workers in Maine, as well as a case study analysis of selected communities.

For this report (Barringer *et al.*, 2004), economist Charles Colgan analyzed employment by creative enterprises in the state using monthly ES202 employment and wage reports to the Maine Department of Labor. Gregory Wassall analyzed the demographic characteristics of Maine's creative workforce through analysis of 2000 U.S. Census Public Use Microdata Sample (PUMS) data. In each case, these data sources provided additional detail concerning annual cycles of employment growth and characteristics of the creative workforce than had previously been available. Jennifer Hutchins and Deborah Smith developed a set of case studies of New England communities with significant concentrations of creative enterprises and derived a set of guidelines for policy makers seeking to foster expansion of the creative sector.

Both Colgan and Wassall's analyses retained Mt. Auburn's identification of NAICS and SOC categories, but each proposed an “enhanced” set of categories for inclusion in their analysis. Wassall added twenty additional occupations to his enhanced definition, and reported results for both the original Mt. Auburn selection and his own expanded list. Colgan likewise retained the Mt. Auburn selection of NAICS codes, but added six additional NAICS categories to his definition of the arts and culture sector.⁵ In addition, Colgan added a Technology sector that included Advanced Materials, Agriculture and Forest Products, Biotechnology, Information Technology, Marine Technology and Aquaculture, and Precision Manufacturing, and proposed including these together with the arts and culture industries in Maine's definition of the creative economy.

The following section carries this discussion forward by viewing significant related efforts outside the region to examine creative economy activity. It also makes a comparison of the creative enterprises selected by each of these projects as a means for examining the extent to which a shared core definition of the creative economy might be developed.

⁵ The added categories were 323112 Commercial Flexographic Printing, 339911 Jewelry Manufacturing, 448310 Jewelry Stores; 511120 Periodical Publishing; and 519120 Libraries and Archives. The Libraries and Archives category was actually included in the Mt. Auburn definition, but the NAICS category was not used to extract federal data because it was covered by the NEFA non-profit report.

III. Defining the Creative Economy: Beyond New England

The Creative Economy Initiative in New England was not the first attempt to examine the relationship between the commercial and non-profit components of the cultural sector. But it does appear to have been the first to use the term “creative economy” to describe this activity as a distinct and significant sphere of economic life.⁶ This fact has gone largely unheralded in the wake of subsequent developments.

Richard Florida’s 2002 book, *The Rise of the Creative Class*, brought the concept of a creative economy to a national audience. Florida gave credit to an August 2000 *Business Week* issue on the 21st century corporation as the first use of the “creative economy”. He also cited John Howkins’ 2001 book, *The Creative Economy: How People Make Money From Ideas* as a prior use. The Creative Economy Initiative report was mentioned only in a footnote, without any acknowledgment that it predated the *Business Week* issue. In his footnote, Florida cited “an interesting report, The Creative Economy Initiative, by the New England Council, June 2000, which uses the term 'creative economy.' But the New England Council report limits its definition of the creative economy to artistic and cultural fields” (Florida 2002: 357).

The difference identified by Florida is not trivial. Because Florida’s application of the term was significantly more expansive, as we discuss below, it is not surprising that he gave the Creative Economy Initiative scant credit. The approach taken in New England and that pursued by Florida are directly related, but not congruous. For work in New England, the impact of Florida’s work has presented both opportunities and challenges, sparking significant interest, but also leading to confusion about the application of the term in research and public policy discussions.

This brings us back to the core issue behind this white paper – how can examinations of the economic status of industries and workers engaged in creative activity move forward with a degree of definitional consistency and precision that can support viable

⁶ Apparently Ralph Waldo Emerson was the first to use the term “creative economy” in his historical treatise, *English Traits*, first published in 1856. Emerson’s phrase has been quoted numerous times as an aphorism: “A creative economy is the fuel of magnificence.” Emerson used the term in a discussion of the English aristocracy to refer to a set of personal traits, not economic conditions. Here is the full context of Emerson’s use:

The war-lord earned his honors, and no donation of land was large, as long as it brought the duty of protecting it, hour by hour, against a terrible enemy. In France and in England, the nobles were, down to a late day, born and bred to war: and the duel, which in peace still held them to the risks of war, diminished the envy that, in trading and studious nations, would else have pried into their title. They were looked on as men who played high for a great stake.

Great estates are not sinecures, if they are to be kept great. A creative economy is the fuel of magnificence. . . . The new age brings new qualities into request, the virtues of pirates gave way to those of planters, merchants, senators, and scholars.

It’s understandable that we in New England have been happy to see Emerson’s use as a definitive claim on our right to define the term as we see fit. As usual, however, the situation is a bit more complex.

comparison and meaningful public policy? The discrepancy between the New England definition of the creative economy and the considerably broader application of the term by Florida and others requires serious examination. While we will argue for the practical utility and the value of the definition advanced in New England, we must also acknowledge that it inevitably exists within the context of these other concepts. At this point, it is futile to assert that the narrower New England definition should have precedence by virtue of its earlier appearance. Florida's broader application of the term has been more influential by several orders of magnitude.

There are two intellectual traditions that converge in this larger definitional wrangle. On the first hand, there has been a growing awareness among economists since the 1970s that cultural enterprises and workers represent a distinct sphere of economic activity that has not been adequately described or measured. The use of the term by Howkins, *Business Week*, Florida, and others, on the other hand, is rooted in the growing awareness that globalization and digital technology have been restructuring the nature of production and the dissemination and control of intellectual property.

The Economic Nature of Cultural Enterprise

The most visible sign of the first tradition in the U.S. has been the multitude of economic impact studies organized by state and local cultural agencies primarily for advocacy purposes, including those produced in New England. These have focused almost entirely on the impact of the nonprofit constituencies of the sponsoring agencies, and while they have had varying success in bringing attention to cultural production as economic activity, they have been too limited in scope to describe this activity as an economic sector. Among academic economists, the main thread of this intellectual development runs through the *Journal of Cultural Economics*, established in 1973, and the Association of Cultural Economics International, informally organized in 1979 and established as a membership organization in 1993. As described by the Journal's mission statement:

Cultural economics is the application of economic analysis to all of the creative and performing arts, the heritage and cultural industries, whether publicly or privately owned. It is concerned with the economic organization of the cultural sector and with the behavior of producers, consumers and governments in that sector. The subject includes a range of approaches, mainstream and radical, neoclassical, welfare economics, public policy and institutional economics.⁷

Prior to the New England Creative Economy Initiative report, few publicly supported studies examined both non-profit and for-profit cultural economic activity together. Given the fact that most of these studies have been self-produced by the sponsoring agencies, it is difficult to be definitive in this area. For example, in 1978 the Minneapolis Arts Commission produced a study of for-profit arts activity in the city and surrounding suburbs, but we have been unable to determine its contents.⁸ A 1983 study sponsored by the Port Authority of New York, updated in 1993, calculated the economic impact of New York City's non-profit cultural organizations, art galleries and auction houses,

⁷ Taken from online journal description, (www.springeronline.com).

⁸ Minneapolis Arts Commission. *The Direct-Dollar Impact of All Arts-Related Functions That Are Conducted For Profit in Minneapolis and Its Interflow Suburbs*. 1978.

commercial theaters, television and motion picture production, and cultural tourism (Port Authority 1983; 1993). While they included for-profit activity, these studies appear to have followed the model of previous non-profit economic impact studies.⁹

Within this tradition perhaps the most articulated model of the economic activity of the cultural sector to date is Richard Caves' 2000 book, *Creative Industries: Contracts Between Art and Commerce*. Caves, a political economist, roots his analysis in economic contract theory, examining the structuring of formal and informal agreements surrounding economic transactions. Caves examines the conditions surrounding these social contracts from a range of perspectives: of the producer of "simple creative goods (one artist's product)" and gatekeepers mediating commercial success; of the teams of artists involved in the production of "complex creative goods—motion pictures, plays" and the constraints operating in these relationships; of consumers of creative goods and conditions surrounding their decision making; of the role of non-profit organizations in mitigating the high fixed costs (Baumol's "cost disease") affecting the production of some types of cultural goods; of the conditions impinging on financial return from cultural goods over time.

Caves' analysis identifies the production of cultural goods as a distinct economic sector with its own surrounding characteristics. In this regard, the definition of creative industries he offers correlates well with the definition advanced by Mt. Auburn in the Creative Economy Initiative report, with the possible exception of applied design. According to Caves, creative industries supply "goods and services that we broadly associate with cultural, artistic, or simply entertainment value. They include book and magazine publishing, the visual arts (painting, sculpture), the performing arts (theatre, opera, concerts, dance), sound recordings, cinema and TV films, even fashion and toys and games" (Caves 2000: 1). Unlike the Mt. Auburn report, Caves does not consider the interpenetration of creative production through individuals working in other industries.

Creativity as the Generation of Innovation

The second definitional tradition, rooted in the concept of creativity as the generation of innovative ideas, predates the development of the creative economy conceptual model in New England. It appeared first in the United Kingdom with the government establishment of the "Creative Industries Taskforce" in 1997. The taskforce's conceptual definition of the creative industries identified these as "industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property." The taskforce's *Creative Industries Mapping Document*, issued in 1998, identified a set of specific business sectors belonging to the creative industries: advertising, architecture, the arts and antiques market, crafts, design, designer fashion, film and video, interactive leisure software, music, the performing arts, publishing, software and computer services, television and radio (UK Dept. for Culture, Media, and Sport 2001: 00-05). The 1998 report, which was updated in 2001, provided measures of revenues, market size, balance of trade, employment, and secondary economic impact for each of these industries.

⁹ Since we have been unable to identify the methodology used by the Minneapolis study, this assertion can be questioned. It does appear true in the case of the Port Authority studies, however.

The inclusion of software design and computer services within the UK definition of creative industries departs significantly from that later adopted in New England, but it is a logical outgrowth of the task force's focus on intellectual property generation. In his 2001 book, *The Creative Economy: How People Make Money From Ideas*, John Howkins noted that the task force had originally considered extending its definition further:

[Britain and Australia] restrict the term, 'creative industries' to the arts and cultural industries and exclude science and the patent industries. This is a regrettable extension of the historical tendency to keep the arts and sciences too far apart. Britain confirmed this narrow view when in 1997 the Labour Government set up a Creative Industries Task Force which, although originally including all intellectual property industries, then decided to exclude science. The Task Force was a bold initiative but had the unfortunate side effect of implying science was not creative (Howkins 2001: xiii).

Howkins, a leader in the British telecommunications industry, delineated his own conception of the creative industries from the premise that any activity involved in the production of intellectual property logically belongs within the creative industries framework. Howkins organizes those industries in relation to the governmental mechanisms established to regulate any form of the creative product – “an economic good or service that results from creativity and has economic value” (Howkins 2001: x). Accordingly, Howkins delineates these as *copyright industries* (predominantly advertising, computer software and video games, design, photography, film, video, performing arts, music publishing and recording, print publishing, radio and television); *patent industries* (predominantly pharmaceuticals, electronics, information technology, industrial design, materials, chemicals, engineering, space, vehicles); *trademark industries*; and *design industries* (Howkins: xii-xiii). Regarding the latter two industries, Howkins notes, “The trademark and design industries are even more widespread, and their sheer size and diversity makes them less than distinctive. It is possible to identify the creativity involved in the creation of a trademark, but it is less easy to calculate its economic value or to identify the economic gains attributable to the trademark in the total product mix” (Howkins: xiii).

In practical terms, Howkins' discussion is focused on his first two industry groups, which he terms the “core creative industries.” Within this core, he identifies fifteen sectors, which correlate exactly with the UK creative industries mapping document — with the sole exception of the Research and Development sector. Howkins describes Research and Development as primarily “a patent business” that includes “the scientific and technical R & D activities carried out by companies, universities, and research organizations. It does not include academic research on non-scientific and non-technical subjects” (Howkins: 106).

Howkins' intellectual framework was directly acknowledged by the Australian government in the development of its *Creative Industries Cluster Study*, first released in May 2002. That study made a further distinction between “technology & brands,” which

it associated with patents and trademarks, and “design & content,” which it associated with copyright and design.

The distinction made between ‘technology & brands’ and ‘design & content’ roughly corresponds to the split between industrial and cultural activities, but there is still considerable overlap between the categories. . . . Further and different distinctions can be made, for example: the distinction between commercial and noncommercial activities, transactions and information, production and marketing, and digital and non-digital representations, as appropriate (Australian DCIA 2002: 10)

The Australian study focused on the design and content side of its taxonomy, specifically on those “enterprises producing, or capable of producing, digital content and applications (Australian DCIA: 9), in keeping with its governmental brief. On the content side, it made a further distinction between “‘core’ copyright industries (which have copyright as their predominant output), and ‘partial’ copyright industries that have copyright as part of their output” (11). It identified core copyright industries as film, music, broadcasting, publishing, games, interactive media, and industrial and visual design. Partial copyright industries were identified as software design and development, advertising, and architecture and related professional services (12).

In essence, the Australian definition of the creative industries remained within the terms of Howkins’ general framework, while making a pragmatic, policy oriented distinction that adopted the United Kingdom cultural mapping definition as a distinct sector for the purposes of policy formation. It then made a further refinement of that definition based upon whether the predominant output of the industry was copyrightable intellectual content.

Despite Howkins’ criticisms of the result of the UK and Australian definitions, this definitional framework, in which design and copyright are identified as a distinct sector, appears to be the predominant approach throughout the world where national governments have identified creative industries as an area of special interest. Our scan for government-sponsored initiatives has identified activities in New Zealand (www.nzte.govt.nz/section/11756.aspx), South Africa (www.createsa.org.za), South Korea (www.kocca.or.kr), Singapore (www.mica.gov.sg/mica_business/b_creative.html), Austria (www.creativeindustries.at), and Macau (www.creativemacau.org.mo) that directly employ the UK cultural mapping framework for their definition of the creative industries¹⁰ On an international level, The International Trade Center, a technical cooperation agency of the United Nations Conference on Trade and Development and the World Trade Organization, has initiated a Creative Industries focus promoting trade opportunities (www.intracen.org/creativeindustries/). ITC cites the UK definition as the basis for its work, but makes a slightly different division into Artisanal Products, Visual arts, Performing arts, Cinema and audiovisual media, multimedia, and literature, books and publishing.

¹⁰ Charles Landry’s concept of the creative city has also been an influence here, but in general these and the following efforts have been driven by the creative industries definition first articulated in the UK.

It is also worth noting the demonstrable influence of the creative industries concept delimited within a content and design perspective. Within the UK and Australia, the creative industries framework has engendered a great variety of government-backed activities, NGOs, networks, incubator spaces, and new university programs. UK national and local government-led or supported efforts include Creative London (www.creativelondon.org.uk), Creative Export (www.creativexport.co.uk), the Creative Industries Development Service (www.cids.co.uk), the Fresh Creative Industries Network (www.freshcreative.org), Creative Industries in Herefordshire (www.creativeherefordshire.co.uk), Creative Stoke (www.creativestoke.org.uk), and the St. Helens Cultural Partnership (www.creative-in-sthelens.org). A similar Australian effort is CreativeBrisbane (www.creativebrisbane.com). Common features of many of these efforts include providing technical services and building online data repositories about available enterprises.

The creative industries concept has also engendered a range of NGOs in the two countries, including the Forum on Creative Industries (www.foci.org.uk), the Creative Industries Network (www.creative-cin.co.uk), and Cultural Enterprise (www.cultural-enterprise.com) in the United Kingdom; as well as the Creative Industries Skills Council in Australia (www.cisc.com.au). Creative Clusters, Ltd. (www.creativeclusters.com), a for-profit company located in Sheffield's Cultural Industries Quarter business incubator space (www.showroom.org.uk), has played a leadership role in organizing a series of international conferences focused on the creative industries concept.¹¹ A similar incubator space effort, the Queensland Creative Industries Precinct, is currently underway in Australia (www.ciprecinct.com.au).

Finally, within the two countries, the creative industries concept has spurred the development of a range of new academic programs, including the development of a Master of Arts degree in Cultural and Creative Industries at Kings College, London (www.kcl.ac.uk/humanities/cci/), an Academy for Creative Industries at Bournemouth and Poole College (www.thecollege.co.uk/academies/creativeindustries/index.php), and a Bachelor of Arts program in Creative Industries Management at Coventry University (www.coventry.ac.uk/courses/course/11897.html) in the UK. In Australia, the Queensland University of Technology established the Creative Industries faculty in 2001 (www.creativeindustries.qut.com).

The Development of an Innovation Framework in the United States

As we have noted, the international development of the concept of creative industries has occurred within the second definitional tradition that identifies creativity as the generation of innovative ideas rather than the production of cultural goods and services.

¹¹ The Workstation, established by the Sheffield City Council in 1993 as an arts and business incubator space, played an influential role in stimulating the thinking that would lead to the creative industries concept. The Cultural Industries Quarter Agency (www.ciq.org.uk) was established in 2000 as a non-profit agency to oversee development.

Within the United States, this tradition was also present prior to the New England Creative Economy Initiative report of 2000.

The first significant public study in the U.S. to assert and identify a set of creative industries as a distinct economic cluster was the report of the Portland Development Commission on the “Creative Services Industry,” published in 1999. Like the New England study, the Portland report defines this activity as an industry cluster. The definition advanced for the creative services sector lies between the New England and UK definitions, being somewhat narrower than each:

“Creative Services” is a cluster of industries and freelancers in advertising, public relations, film & video, design, multimedia and software, and closely related fields. Creative service businesses rely heavily on the creative skills and ability of their workers, and many participate in the industry as freelance professionals. Creative services are important to Portland because they pay well, provide important services to other sectors of the regional economy, and provide cultural benefits to the community (Scruggs et al. 1999: 19).

For the pragmatic framework used to extract data from federal and state sources, the Portland study identified a set of six codes from the U.S. Standard Industrial Classification (SIC) code system, which was later replaced by NAICS. These were 731 (Advertising Agencies and Services), 733 (Advertising, Commercial Photo, Graphic Design), 737 (Computer Software, Integration and Data Processing), 78 (Motion Pictures, except theaters), 7922 (Theatrical Producers and Services), and 8743 (Public Relations Services). It should be noted that the report's inclusion of computer software as a creative services industry sector placed it within the same definitional tradition as the UK creative industries framework — though the contemporary developments in the UK were not cited in the Portland document. Furthermore, the Portland study identifies the key characteristic of the cluster not as the production of cultural goods and services, but the intersection of design, technology, and communications:

Creative Services firms, for the most part, combine forms of design, technology and communications. This means that workforce and support services require a different focus than other targeted industries. Training and education of the workforce must include programs that integrate arts, technology and communications. Support businesses include not just the traditional accounting, legal, and printing services, but community art, design and theatre that provide creative outlets and support innovation in the industry (Scruggs et al. 1999: 8).

When considering Richard Florida's work, it should be placed within this definitional tradition of creativity as innovative ideas. Florida departs from the studies we have cited within this framework by locating the primary economic drivers not within the organization of enterprises but in the relative presence of individuals who provide intellectual creative capital. According to Florida:

The Creative Class consists of people who add economic value through their creativity. It thus includes a great many knowledge workers, symbolic analysts and professional and technical workers, but emphasizes their true role in the economy. (Florida 2002: 68.)

The identification of the Creative Class as a new social class lies at the heart of Florida's concept:

I define the core of the Creative Class to include people in science and engineering, architecture and design, education, arts, music and entertainment, whose economic function is to create new ideas, new technology and/or new creative content. Around the core, the Creative Class also includes a broader group of *creative professionals* in business and finance, law, health care and related fields. These people engage in complex problem solving that involves a great deal of independent judgment and requires high levels of education or human capital. In addition, all members of the Creative Class — whether they are artists or engineers, musicians or computer scientists, writers or entrepreneurs — share a common creative ethos that values creativity, individuality, difference and merit.

In Florida's model, Creative Communities with a concentration of such individuals can be characterized by a set of technological and social features, including tolerance for social diversity (Technology, Talent, and Tolerance). According to Florida, the relative competitive advantage held by such communities would help them prosper in the transition to a new global economy, in contrast to older economic development models which emphasized attracting industries on the basis of job creation.

Florida provided a striking new way of considering the underlying sources of regional economic development in a way that captured broad interest and excitement. A number of subsequent economic development efforts based on his thinking have focused on quality of life issues, in an effort to engender the kind of environment expected to attract creative individuals to an area. Examples include the Memphis Talent Magnet Project of 2002 (Coletta et al. 2003) and subsequent Memphis Manifesto (www.memphismanifesto.com), Creative Tampa Bay (www.creativetampabay.com), and the recent Michigan's Cool Cities initiative (www.coolcities.com).

Florida's model also quickly came under attack from critics on both the left and right. One thread of this critique countered that the creative communities identified by Florida ranked relatively poorly in contrast to expanding sunbelt communities with few of the characteristics prized by Florida. A second critique argued that the Creative Class as defined by Florida was so broad that it lacked any analytical power. Based on measurements drawn from U.S. Federal data, fully 30 percent of all employed people in the U.S. belong to this group — a fact that Florida cited as an important social development and his critics derided as a hodgepodge.

Florida's work has also been challenged by overall economic developments since the publication of *The Rise of the Creative Class*. The bursting of the internet bubble and the global outsourcing of many knowledge-based jobs seriously undercut the argument that a concentration of creative workers as defined by Florida conveyed a long-term competitive advantage in the new global economy. Florida has recently attempted to address these issues in *The Flight of the Creative Class*, in which he argues that competition from centers of talent, technology, and tolerance in other countries has begun to eclipse the competitive advantage of the U.S. as a whole.

Our intention here is not to consider the overall validity of Florida's work, but examine its definitional roots and trace its influence. Although he focuses on workforce characteristics, Florida's overall definitional framework is largely consonant with John Howkins', extending the consideration of creativity to all aspects of ideational innovation. Where Howkins locates this in the creation of intellectual property, Florida locates it in the individual worker's ability to manipulate symbolic systems — leading him to embrace all forms of knowledge work. But like Howkins, Florida identifies a definitional core that is more limited in scope and oriented toward the creation of intellectual property. Florida's Super Creative Core, parsed in terms of workforce rather than industry, roughly corresponds with Howkins' core creative industries. Using the Standard Occupational Classification system, Florida's pragmatic delineation of the Super Creative Core consists of the occupations within the following major groupings:

- 15-0000 - Computer and mathematical occupations
- 17-0000 - Architecture and engineering occupations
- 19-0000 - Life, physical, and social science occupations
- 25-0000 - Education, training, and library occupations
- 27-0000 - Arts, design, entertainment, sports, and media occupations

These can be generally mapped to Howkins' core industries as follows:

Table 1: Comparison of Howkins and Florida Creative Occupations

Howkins	Florida
Advertising	[no direct correspondence]
Architecture	17-1000: Architects, surveyors and cartographers
Art	27-1010: Artists and Related Workers 27-2010: Actors, Producers, and Directors 27-2030: Dancers and choreographers
Crafts	27-1010: Artists and Related Workers
Design	27-1020: Designers
Fashion	27-1022: Fashion designers
Film	27-2010: Actors, Producers, and Directors 27-4032: Film and Video editors
Music	27-2040: Musicians, singers, and related workers

Howkins	Florida
Publishing	27-3040: Writers and editors
Research and Development	15-2000: Mathematical science occupations 17-2000: Engineers 17-3000: Drafters, engineering, and Mapping technicians 19-1000: Life Scientists 19-2000: Physical Scientists 19-3000: Social Scientists 19-4000: Life, Physical, Social Scientist technicians
Software	15-1000: Computer specialists
Toys and Games	[no direct correspondence]
TV and Radio	27-3000: Media and communication workers 27-4000: Media and communication equipment workers
Video Games	15-1000: Computer specialists
[no direct correspondence]	25-0000: Education, training, and library occupations
[no direct correspondence]	27-2020: Athletes, coaches, umpires, and related workers

When situated within the definitional tradition of creativity as innovative thought and translated from industry to occupation, Florida's definition of the creative class fits within a consistent perspective, even as it pushes it to an extreme. Howkins and Florida both fit at one end of a spectrum within that tradition, with each describing a separate component of an overall economic system — Howkins' definition being equivalent to the creative cluster component of the Mt. Auburn model, and Florida's definition equivalent to that model's creative workforce component.

Subsequent U.S. Developments

Within the U.S., the application of Florida's thinking is somewhat similar to the ways in which Howkins' ideas have been applied internationally. Although each has been often cited with considerable excitement, when translated into pragmatic application, only a limited portion of their overall paradigm is applied. In contrast to examples in Europe and Asia, where the definitional framework developed in the UK creative industries mapping document have been consistently applied, the components of subsequent creative economy studies in the U.S. have been more varied in their selection of constituent components, in large part because both of these underlying traditions have been at play here to a nearly equal extent.

Following the publication of the New England Creative Economy Initiative report, the Center for an Urban Future in New York City issued a report entitled *The Creative Engine: How Arts & Culture is Fueling Economic Growth in New York City*

Neighborhoods (2002). Citing the New England and Portland reports as precursors, the report identified the following components of the creative economy in the city: non-profit cultural organizations; commercial galleries, commercial theaters, television, advertising, technology, fashion, cafes, bookstores, printing and publishing, and architectural services. In this regard, the components identified in the New York report were closer to the Portland report, with its inclusion of the software industry.

In the same year, Cultural Initiatives Silicon Valley, a newly formed non-profit, issued its *Creativity Community Index* (2002) report. Taking a social indicators approach directly focused on the contributions of cultural activity in the region, the report placed this focus within the context of creativity as innovation. Drawing from Richard Florida's framework to describe the demographic characteristics of Silicon Valley as a hub of innovation, the report nonetheless placed its emphasis on supporting cultural activity as a wellspring for creativity.

Also in 2002, the Appalachian Regional Commission, the National Endowment for the Arts, and Americans for the Arts co-sponsored a conference entitled *Building Creative Economies: The Arts, Entrepreneurship, and Sustainable Development in Appalachia*. Again citing the New England Creative Economy Initiative report, the conference focused on ways in which local economies could draw upon indigenous culture to build economic activity largely oriented toward cultural tourism.

A 2003 report by the Sonoma County (California) Economic Development Board on Financial Services and the Creative Cluster defined the cluster as “a group of industries that, at their core, employ persons in the fields of science and engineering, architecture and design, education, arts, and music and entertainment who create new ideas, new technology, or new creative content.” It then used Florida's Super Creative Core and Creative Professionals groupings to compare their share of employment in the county to the U.S. as a whole — in effect, mixing the industry and workforce components.

2003 also saw the publication of *Clusters of Creativity: Innovation and Growth in Montana*, an analysis of six industry clusters in the state, including the “creative enterprise cluster.” The study described the organization of the cluster in three tiers:

- (1) those individuals (and enterprises) who derive their income from the art, craft, and words they produce with their hands or from their minds;
- (2) those firms that convert them into commercial products or ventures;
- and (3) those enterprises that apply art, design, and creative writing to other areas of commerce (Regional Technology Strategies 2003: 4)

The Montana report's conceptual model of the cluster was largely consonant with the New England model, since the individuals in Montana's Tier One are equivalent to the sole-proprietors belonging to the Creative Cluster in the New England model. The pragmatic definition of the Montana report was also similar to the New England one in focusing on industries that produce cultural goods and services. One deviation was Montana's inclusion of the NAICS 3-digit classification for Leather and Allied Product

Manufacturing, identified in the Montana report as the production of boots and saddles — suggesting the entire composition of this industry within the state consisted of artisanal production.

Other significant U.S. developments in 2003 included the publication of the monograph, *Cultural Development in Creative Communities* by Americans for the Arts, which offered a set of suggestions for supporting cultural economic development. The monograph suggested that Florida's work provided “a tremendous opportunity for the cultural sector. . . . The real opportunity is for the cultural community, itself, to claim leadership in fleshing out strategies to develop creative capital for our communities” (Bulick *et al.* 2003: 1). In a sense, while operating within the general creative class framework, the monograph made a special pleading for the particular role of arts and culture in contributing to the viability of creative communities.

A 2003 international conference on the International Creative Sector, sponsored by UNESCO at the University of Texas, Austin, also struck a somewhat confusing definitional note:

The terms “cultural sector” and “creative industries” evoke different concepts across geographic boundaries. For some, the term “cultural sector” implies only the non-profit community of organizations such as museums, heritage protection, the performing arts, and galleries. “Creative industries,” by contrast, is a term that signifies for-profit activity such as graphic design, the music recording industry, radio, television and film (UNESCO 2003: 3-4).

The conference summary attributed disagreements to the various national frameworks brought by each participant. However, judging from the conference proceedings, there appears to have been a general assumption that the area under consideration was centered in the cultural realm, rather than creative innovation.

Within the past two years, several important research based efforts have applied their individual definitional frameworks to the issue. In 2004, HandMade in America issued the report of a door-to-door survey of businesses in downtown Asheville, North Carolina, in an effort to map the relative presence of creative economy businesses. For this work, HandMade drew upon Florida's “Super Creative Core” concept as the frame for its pragmatic definition, but applied its general categories to businesses rather than occupations, somewhat loosely correlating one to the other. Even in translation, by including software, computer, and video game businesses within its purview, the HandMade definition was situated closer to the UK creative industries framework than to those centered in cultural production.

Drawing on the proprietary business database compiled by Dun & Bradstreet, Americans for the Arts began production of a set of geographically specific Creative Industries reports in 2004. As we discuss below, AFTA's licensing of this proprietary data was a striking new approach to the problem of measuring the economic contribution of the sector. In terms of its overall conception of creative industries, the universe of

enterprises captured by AFTA is situated closer to the Mt. Auburn New England model than to the UK framework, including industries that produce cultural goods and services, but excluding activity such as software design.

In June 2005, the Michigan State University Community and Economic Development Program issued a report entitled, *The Dollars and Sense of Cultural Economic Development: Summary Report of Michigan's Cultural Capacity*, which cited both Florida's work and the New England Creative Economy Initiative report.¹² In applying a pragmatic definitional framework to its analysis, however, the Michigan State report adopted the New England model almost in its entirety:

This baseline assessment of Michigan applies significant portions of the New England methodology, including most industries used in defining the **Creative Industries** (Creative Cluster), and occupations that fall under the **Creative Workforce**. Due to the nature of this study, we have made some variations, and not included all of the data generated by the New England Study. Our study, therefore, does not detail the geographic nature of creative communities or talk about cultural tourism in detail. Additionally, our analysis does not divide compiled data into for-profit and non-profit institutions, and we do not analyze the impact of the self-employed in Michigan's Cultural Economy (Fernandez *et al.* 2005: 5).

As in the example above, the Michigan State report employed the term “creative industries” in preference to “creative cluster” throughout, occasionally using the term “cultural industries” as well.

Most recently, Mt. Auburn Associates has completed a major analysis that applies the conceptual framework developed for New England to the economy of Louisiana. Entitled *Louisiana: Where Culture Means Business*, the report makes a comprehensive survey of the state's cultural businesses and workers, employs new techniques in weighting the relative presence of cultural enterprises among the businesses represented in government secondary data, and sets forth a set of long-term policy recommendations. While the report retains the basic conceptual model of the New England study, Mt. Auburn makes a significant terminological shift throughout, referring to its subject matter as the “cultural economy,” and defining it as “the people, enterprises, and communities that transform cultural skills, knowledge, and ideas into economically productive goods, services, and places” (Mt. Auburn 2005: 7). The report identifies the industry component of the conceptual model as “cultural enterprises” and uses “cultural workforce” for the employment component (Mt. Auburn 2005: 21). By making this shift, the report signals the definitional tradition it belongs within, and reduces potential confusion with the terminology used elsewhere.

The pragmatic definition Mt. Auburn employs to extract secondary data has also been recently modified. The Louisiana report includes several industry segments that are not counted in the New England study: adding culinary arts and historic preservation to the

¹² We are not certain if there is a relationship between this report and the Michigan Cool Cities initiative.

industries the report terms “the core cultural segments of design, entertainment, literary arts and humanities, and visual arts” (Mt. Auburn 2005: 7). Similarly, the occupational categories of carpenters, chefs, bakers, and other food preparers are added to the cultural workforce. The addition of culinary arts and historic preservation is based on the observation that “the components of culture and creativity vary widely from place to place. Fashion is a major creative industry in New York City, but is more accurately classified as a manufacturing industry elsewhere. Similarly, the culinary industry, which is an integral part of Louisiana’s cultural economy, might not be considered so elsewhere” (Mt. Auburn 2005: 7). Because these segments are subsumed within other categories measured in federal data, the study employed state data sources and conducted a series of industry specific interviews in order to gauge the percentage of industry and employment represented within industry data sources.

Throughout this review, we have distinguished between two levels of definition operating within considerations of the creative economy and its components. The first level consists of the primary conceptual models that have been used to delineate the universe of businesses, individuals, and activities identified as an economic sector. The second level consists of the pragmatic definitions that are used to extract information about this sector from available sources. As many commentators have noted, and as our discussion above should make clear, there are differences of opinion operating at both these levels. It is our contention, however, that some of the perceived confusion has arisen from mixing these two levels. This section concludes with a consideration of the issues that impinge on reaching a research consensus that are operating on each level, in the hope that this can help inform future work in New England.

Issues of Consensus Concerning Conceptual Models

Each conceptual model advanced for the creative economy inevitably stems from its own position of advocacy. Each contends that there is a segment of social and economic life that has been undervalued for its contribution to national, state, and local economies. As we've suggested above, at least two distinct traditions inform these models: one that emphasizes the production of cultural goods and services — however defined — as a valuable contributor to society; and the other that emphasizes the role of intellectual innovation as an economic driver of particular value during periods of societal transition.

On the conceptual level, much of the confusion has stemmed from the overlapping uses of terminology by each of these traditions — in particular, when “creative” is used to mark the boundaries of their main subject. As a practical matter, we note that these terminological issues may be receding in the face of popular usage. Recent studies of the “creative economy” within the first tradition have begun to move away from the use of “creative” to delineate the production of cultural goods and services. Whether we should follow a similar course in New England is now a matter for useful debate.

As a conceptual matter, there is nothing inherently antagonistic between the two traditions. The production of cultural goods and services as a matter of intellectual

creation fits within the paradigm of the second tradition, and the basic premises of the first are not contradicted by the second.¹³ It may even be conceivable that all parties could agree to a 'unified theory of the creative economy' that utilizes the basic domains of the Mt. Auburn model and employs the delineation used in the 2002 Australian Creative Industries Cluster Study to chart the relationship. Such a synthetic model might look something like this: the creative economy consists of the entire range of activities that have “their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property” (UK Dept. for Culture, Media, and Sport 2001: 00-05). These activities can be delineated within the Mt. Auburn model, into activity undertaken by enterprises, individuals, and communities. The activities can be further delineated in terms of the type of intellectual content produced, practically mediated as economic activity by governmental structures for property protection. Activities that produce intellectual property can be distinguished on the basis of trademark and patent activity on the one hand, and copyright and design on the other. Within the sphere of copyright and design are those activities that produce cultural goods and services.

Whether such a collation of ideas makes sense, two potential areas of tension will remain. Does the production of cultural goods and services constitute an area of activity that can be separated on the basis of the conceptual model alone? This is the habit of mind in the U.S., but the international spread of the creative industries framework suggests that delineating on the basis of copyright and design alone may be more consistent and potent from a policy standpoint. The second area of tension is where to set the outer boundaries of the model as a matter of public policy.

Issues of Consensus Concerning Pragmatic Applications

From a research standpoint, the pragmatic issues surrounding the description of the creative economy are an inevitable consequence of the nature of governmental data collection and reporting, and these will inevitably vary from country to country and region to region. The general issues surrounding the pragmatic application of any model are consistent regardless of the geography.

If we could agree upon a common conceptual model for the creative economy, we would ideally capture information at the level of single enterprises and individuals. There are cases in which this is possible. For example, U.S. federal data is available to the public on the organization level for a subset of registered non-profit organizations. Other U.S. government data sources, such as ES-202 filings, may also be available only to qualified researchers. For the most part however, sources of data that can be practically accessed are aggregated by the accepted classification systems in current use.

In order to use these sources, the conceptual model has to be mapped onto the available categories. As we've discussed in reference to creative economy work in New England, the most direct way to do this is to cherry pick the industrial and occupational categories

¹³ This is one reason why the cultural sector has been energized by the impact of Richard Florida's work, while continuing to apply it only to their particular sphere of interest.

that contain an acceptable percentage of the types of organizations and individuals that are targeted by the model.

For a pragmatic definition oriented toward a particular data source, it is conceivable that a consensus can be reached on the specific classifications that reach an acceptable threshold anywhere in the nation. In New England, we have begun to speak of the set of NAICS and SOC codes selected by Mt. Auburn Associates for the 2000 Creative Economy Initiative report as the 'core creative economy definition,' then going beyond to identify a set of 'extended creative economy' classifications. This is in part a reaction to a sense within the region that the original selection is too constrained, though methodologically correct, because it too clearly excludes intrinsic clusters of activity such as artisanal furniture making that are distinct to specific geographic areas within the region.

This is the same issue facing the Montana and Louisiana studies that led to extensions of a set of core enterprises and occupations based upon the unique characteristics of those areas. We would argue, though, that the contention that the components of creative activity vary from region to region is not strictly accurate. For the purpose of developing a consistent body of research that can meet the needs of policy formation, the components should remain consistent from area to area on a conceptual level. If one kind of business belongs within the model in one place, it should also belong in another. However, the relative presence of certain components, and whether they constitute an economic cluster, will vary — which we believe to be the meaning intended in these two studies. In some places, it will not be feasible to measure certain components in a defensible way.

Consensus around a pragmatic definition could well employ a core and extended formula that could be applied consistently on a national level. Assuming a consensus around the model being applied, it should be possible to identify a set of core and extended categories for any particular data source. Those in the core would meet the threshold test on a national level — the largest percentage of enterprises or individuals in that category would belong to the model. Ideally, any study would break out the information for that core in order to allow consistent geographic comparisons. There should also be consensus around the categories identified for consideration in an extended formula. Agreement about which subcomponents within these categories belong within the model, and a consistent methodology for evaluating the relative presence of the subcomponent in a particular geography would allow for useful and consistent description despite the inadequacies of existing classification systems.

Because national classification systems have evolved and been supplanted by new systems over time, there is no escaping a certain level of inconsistency between studies that rely on different sources. There is no alternative to cherry picking a set of specific categories from the classifications employed by each data source. As we suggest above, this process should be done through consensus, and this should also be done with reference to the crosswalks developed by the agencies responsible for developing these

systems. This would reduce the inconsistency to the nature of the data sources rather than the selections of the researchers.

The following section discusses the nature of particular data sources in detail, but it is worthwhile to conclude this section by briefly citing a case in point. As we note above, we would ideally measure the scope of the creative economy according to an accepted model by assembling data about single enterprises and individuals, and to a limited extent this is possible for the non-profit sector. Americans for the Arts has licensed employment data from the proprietary Dun & Bradstreet database, which contains establishment level data, predominantly on commercial businesses. Because Dun & Bradstreet developed their own proprietary 8-digit extension to the older SIC classification system, it is possible for AFTA to aggregate data from individual enterprises with a finer grained set of sub-categories than possible using aggregate federal data related to commercial enterprises, and to do this consistently at a national level.

In theory, this should make it possible to measure a core set of commercial activity within a creative economy model with greater fidelity than using federal sources alone. In order for this to yield defensible results, however, it must also be related, or mapped, to those federal sources to reduce the possibility that the variations stem from researcher choice rather than the characteristics of the data sources used. Our general contention here is that any individual report should explicitly map the relationship of its data sources to a commonly accepted framework in order to support meaningful comparisons.

Up until this point we have approached the definitional questions surrounding the creative economy from an historical and conceptual perspective. The next section approaches the matter from a technical standpoint with an examination of the characteristics of pertinent U.S. federal data sources and the categorization systems available for extracting information on the creative economy from these sources.

IV Measuring the Creative Economy: Some Guiding Principles

In this section, we examine the definition of the creative economy in relation to the most relevant secondary data sources that are available in the U.S. Our aim is to parse the set of occupational and industrial categories employed by these data sources, first in relationship to a broader notion of the creative economy, and then more specifically to the definition as it has been applied in New England. For this purpose, we compare the categories used in New England to a number of alternative definitions. We are attempting to accomplish three goals:

1. To provide a technical comparison of the definition used in New England, which is focused on cultural goods and services, with several of the broader creative economy definitions.
2. To identify every category within each of the respective systems that pertains to the production of cultural goods and services.

3. To further distinguish those categories that can be reasonably expected to capture *only* the production of cultural goods and services.

These distinctions will merit further discussion in the New England researcher convening responding to this paper. The first provides a framework for considering whether the definition employed in New England should continue to be restricted to the sphere of cultural activity – and if so, how it should be sensibly related to the international dialogue on the creative economy. The second provides a checklist of all relevant industrial and occupational categories in which the production of cultural goods and services can be reasonably expected to occur. The third provides a base listing of occupations and industries in the available sources for which consistent data can be obtained across geographies.

As we have noted above, the New England Creative Economy Initiative report of 2000 is unique in that it contains three perspectives on New England's creative economy: the Creative Workforce, the Creative Cluster, and Creative Communities. To reprise these definitions:

The Creative Cluster, defined as those enterprises and individuals that directly and indirectly produce cultural products. . . .

The Creative Workforce, defined as the thinkers and doers trained in specific cultural and artistic skills who drive the success of leading industries that include, but are not limited to, arts and culture. . . .

The Creative Community, defined as a geographic area with a concentration of creative workers, creative businesses, and cultural organizations.

In this section, we largely retain the terminology employed in the 2000 Mt. Auburn report, although we make further recommendations concerning terminology in the final section of this white paper. As noted earlier, these industry and workforce descriptions employed in New England have as a unifying theme the desire to capture cultural activity, whether in the context of for-profit or non-profit organizations, and to capture cultural workers, whether they are employed in the creative cluster or outside it. The phrase “cultural” is used here to distinguish this approach from those of others, identified earlier, who use the term “creative” to apply to broader classes of industries and workers.

This exercise has dual objectives. The primary objective is to develop a consistent and defensible definition of the creative economy in New England that provides the framework for reporting on the characteristics, size and growth of this creative economy on an annual basis, and to guide researchers in the region who are making independent examinations of the creative economy in a particular state or locale. The second objective is to arrive at a definition, whether revised or unchanged, comprised of groups of occupations and industries that are identifiable and measurable using readily accessible and objective data sources. A problem that has plagued past attempts to identify cultural

or creative economies in this country has been the tendency of researchers to create a one-time profile which cannot be easily reproduced in future years, or to define workforce or industry categories which overlap or consist of only part of existing government-defined entities.¹⁴ The ability to define the creative economy using existing occupation and industry definitions will permit comparisons with other regions, with the US as a whole, and within the region over time.

Other desirable characteristics of a definition include the following: 1) it is preferable that the sources of data that are utilized in research should be independently generated; 2) there should be a lengthy annual time series available, enabling comparative analysis over time; 3) it should be possible to break down the aggregated information into useful employment or industry categories. The capability to break down this information to geographic entities within states would be a plus. The original New England Creative Economy Initiative report provided information on employment by occupational categories in the creative workforce (1996) for the region, and by industry categories in the creative cluster (1997) for the region and each of the six states.

Parsing the Creative Workforce

Estimates of employment in the Creative Workforce in the original Creative Economy Initiative report were made using tabulations from the 1996 Current Population Survey (CPS). This database has several advantages which are consistent with the wish list detailed above. The CPS is formed by a random national monthly survey of over 50,000 households, and because they are random the monthly samples can be converted to annual data. Because households are the respondents, the survey produces a representative estimate of the entire labor force, including the self-employed. Employer-based surveys, such as the Occupational Employment Survey and ES202 data, do not fully capture self-employment. The self-employed are an important part of the labor force – 7.5 percent in 2003 (Hipple, 2004) – and self-employment is especially important in many of the Creative Workforce occupations, such as visual artists, writers and photographers.

The drawback of the Current Population Survey is that, for purposes of obtaining more detailed information about the Creative Workforce, its sample size imposes some limits. Although a national monthly sample of over 50,000 yields well over a million employment observations on an annual basis, when collecting information on an individual occupation in states that constitute around a half of one percent of the US population, as is the case for Maine, New Hampshire, Rhode Island and Vermont, the

¹⁴One co-author ran into this issue when conducting research in preparation of the *Creative Economy Update* (2003). The intent of this report was to update the data in the original report through 2002 using the same occupation and industry categories and data sources. However, one of the original occupations - elementary and secondary school teacher of art, drama, and music - is not a recognized occupation in government taxonomies. It proved impossible to replicate the information on this occupation, which was originally collected via contacts with state Departments of Education. Also, noted earlier, the original report substituted employment figures on cultural non-profits in the 1997 Economic Census with data using a more comprehensive definition gleaned from 1996 economic impact report. Unfortunately, that report was not updated annually, so the update on the Creative Economy had to revert back to using data on non-profit employment provided by the Economic Census.

estimates become statistically unreliable. That is why state-by-state estimates of the Creative Workforce were not provided in the original report.

A more in-depth look at the Creative Workforce can be taken using the decennial US Population Census, because it is drawn from a much larger sample.¹⁵ A promising alternative to the CPS is the American Community Survey (ACS), a byproduct of the Census designed to replace the decennial Public Use Microdata Sample. Although the ACS project has been under way since the 1990s, it has only recently been extended to a national sample. The 2004 ACS contains a stratified random sample of 838,000 households, and as such can be expected to replace the CPS for information about the Creative Workforce in future years. The CPS could still serve as the basis for annual informational updates to the Creative Workforce of the type done in the past, and is essential for any historical (pre-1996) research on the Creative Workforce.

The occupational classifications used in the Current Population Survey, Decennial Census, and American Community Survey are based on the Standard Occupational Classification system. This occupational system was revised in 2000, after a much earlier revision in 1980. It was implemented in the 2000 Census of Population and became the basis of labor force classifications in the CPS starting with 2003. Unfortunately, this redefinition causes a break in the occupational time series implicit in Census and CPS releases, and information based on the new occupational characterizations is not completely compatible with those using the 1980 characterizations. However, in estimating employment summed over many occupations the differences will not be great.

To see the Creative Workforce in the context of the SOC groupings, a useful starting point is to observe the basic SOC groupings, and then observe where the occupations in the Creative Workforce fall within them. This will also make it easier to compare the Creative Workforce occupations to some of the alternative creative economy workforce concepts that were described earlier.

¹⁵Researchers can use the Public Use Microdata Sample, which contains information on five percent of the U.S. population, or about 14 million persons.

Table 2: Major SOC and Census Groups, with Florida's Categories Overlaid

SOC	Census	Category/Group
		Creative Class:
11-0000	001-049	Management Occupations
13-0000	050-099	Business and Financial Operations Occupations
15-0000	100-129	Computer and Mathematical Occupations
17-0000	130-159	Architecture and Engineering Occupations
19-0000	160-199	Life, Physical, and Social Science Occupations
21-0000	200-209	Community and Social Service Occupations
23-0000	210-219	Legal Occupations
25-0000	220-259	Education, Training, and Library Occupations
27-0000	260-299	Arts, Design, Entertainment, Sports, and Media Occupations
29-0000	300-359	Healthcare Practitioners and Health Care Occupations
		Service Class:
31-0000	360-369	Healthcare Support Occupations
33-0000	370-399	Protective Service Occupations
35-0000	400-419	Food Preparation and Serving Related Occupations
37-0000	420-429	Building and Grounds Cleaning and Maintenance Occupations
39-0000	430-469	Personal Care and Service Occupations
41-0000	470-499	Sales and Related Occupations
43-0000	500-599	Office and Administrative Support Occupations
		Agriculture:
45-0000	600-619	Farming, Fishing, and Forestry Occupations
		Working Class:
47-0000	620-769	Construction and Extraction Occupations
49-0000	700-769	Installation, Maintenance, and Repair Occupations
51-0000	770-899	Production Occupations
53-0000	900-979	Transport and Material Moving Occupations

To begin, an overview of the categorization of occupations in the US economy can be seen in Table 2 above. This table lists the broadest occupational groups identified in the SOC. To place these occupational groups in more familiar territory to many readers, they are simultaneously placed into the taxonomy used by Richard Florida in his *The Rise of the Creative Class*. Also identified in Table 2 are the corresponding Census 2000 occupation category ranges. Despite the preeminence of the SOC categories, it is the Census 2000 occupation categories that are reported in the 2000 PUMS and the CPS.¹⁶

¹⁶The 2000 PUMS gives researchers the option of categorizing members of the labor force by either the Census or SOC definitions. CPS labor force categorizations are limited to the Census definitions.

The SOC identifies 23 broad occupational groups.¹⁷ Of these, 10 fall into Florida's Creative Class. In Table 2, the remaining occupational groups are also placed in the other categories created by Florida: the Service Class, the Working Class, and Agriculture. Well before the publication of Florida's book, it was well-known among labor market professionals that, over the 20th century, the US workforce (and those of other advanced nations) evolved from being primarily agrarian into one producing manufactured goods, and subsequently into one which is heavily service-based. Since World War II there has been a significant growth in the professions, which provide many of the more sophisticated services offered in our society. Thus the most rapidly growing proportions of the labor force lie within the Florida's Creative and Service Classes.

We can now see how the New England Creative Workforce occupations fit within the SOC taxonomy. Table 3 below shows the fourteen Creative Workforce occupations in the Mt. Auburn definition, redefined in 2000 SOC and Census terminology.¹⁸ At the core of the Creative Workforce are the eleven artist occupations as defined by the National Endowment for the Arts.¹⁹ Some of these occupations are altered to some degree from those in the original study, which used the 1980 occupational definitions available at the time of its publication. Interestingly, two of the fourteen occupations fall outside of Florida's broadly defined Creative Class. These two occupations were included in order to capture some of the craft workers and artisans in New England, a difficult proposition using the SOC-Census taxonomy.²⁰

Table 3: The Mt. Auburn Creative Workforce Definition Using the Census 2000 Taxonomy

Occupation	SOC	Census 2000
Architects, except Naval	17-1010	130
Archivists, Curators, and Museum Technicians	25-4010	240
Artists and Related Workers	27-1010	260
Designers	27-1020	263
Actors	27-2011	270
Producers and Directors	27-2012	271

¹⁷One occupational group - that of SOC 55 (Census 980-991), which is Military Specific Occupations - is missing in Florida's taxonomy, presumably because it represents non-civilian employment. For consistency, we leave it out of this table as well.

¹⁸We have dropped one of the original fifteen occupations, elementary and secondary teachers of art, music, and drama, for reasons noted earlier - it is not tracked by any of these occupational taxonomies.

¹⁹The nature of these eleven occupations was also altered after the revision of the SOC dictionary. They now are, along with their Census 2000 Code, Architects, except Naval (130), Artists and Related Workers (260), Designers (263), Actors (270), Producers and Directors (271), Dancers and Choreographers (274), Musicians, Singers, and Related Workers (275), Entertainers and Performers, Sports and Related Workers, All Other (276), Announcers (280), Writers and Authors (285), and Photographers (291).

²⁰To gauge the difficulty, one can note the sub-categories (in the SOC taxonomy) of the Painting Workers occupation: 51-9121, Coating, Painting, and Spraying Machine Setters, Operators, and Tenders; 51-9122, Painters, Transportation Equipment; and 51-9123, Painting, Coating, and Decorating Workers.

Occupation	SOC	Census 2000
Dancers and Choreographers	27-2030	274
Musicians, Singers and Related Workers	27-2040	275
Entertainers and Performers, Sports & Related Workers, All Other	27-2099	276
Announcers	27-3010	280
Writers and Authors	27-3043	285
Photographers	27-4021	291
Cabinet Makers and Bench Carpenters	51-7011	850
Painting Workers	51-9120	881

In order to examine the degree of convergence between broader creative economy definitions and New England's Creative Workforce, the next logical step is to examine the “Super-Creative Core” that lies within Florida’s Creative Class. As noted above, Florida’s Super-Creative Core can be related more directly to European definitions of the creative economy that focus on creativity as intellectual innovation.

The Super-Creative Core group, according to Florida (p. 74), “is made up of . . . people who work directly in creative activity.” Using the information in Table 2, the Super-Creative Core consists of SOC categories 15, 17, 19, 25, and 27, i.e., computer and mathematical, architecture and engineering, life, physical and social science, education, training and library, and art design, entertainment, sports and media occupations. Put another way, the Super-Creative Core drops management, business and financial, community and social service, legal, and health care occupations from the Creative Workforce.

The Super-Creative Core Census occupations are shown in Table 4 below. To aid in comparison, the fourteen Creative Workforce occupations defined in the Mt. Auburn report are shown in *italics and underlined*, except for the two that fall outside of Florida’s definition. A set of additional occupations that Wassall identified as belonging to the “Enhanced Creative Workforce” (along with the above-identified fourteen) in Barringer (2004) is shown in *italics*. These twenty additional Enhanced Creative Workforce Occupations include those that, in Wassall’s opinion, can be construed as consistent with the basic philosophy of the original fourteen, and thus could be encompassed in a broader definition. Like the original fourteen, a number of these are contained within Florida’s Super-Creative Core, while a number of craft and artisanal occupations fall outside. These are identified separately in Table 5.

Table 4: Florida's Super-Creative Core Occupations

Occupation	SOC	Census 2000
Computer and Mathematical Occupations (12)	15-0000	100-129
Computer Scientists and Systems Analysts	15-10xx	100

Occupation	SOC	Census 2000
Computer Programmers	15-1021	101
Computer Software Engineers	15-1030	102
Computer Support Specialists	15-1041	104
Database Administrators	15-1061	106
Network and Computer Systems Administrators	15-1071	110
Network Systems and Data Communications Analysts	15-1081	111
Actuaries	15-2011	120
Mathematicians	15-2021	121
Operations Research Analysts	15-2031	122
Statisticians	15-2041	123
Miscellaneous Mathematical Science Occupations	15-2090	124
Architecture and Engineering Occupations (21)	17-0000	130-159
<i>Architects, Except Naval</i>	17-1010	130
Surveyors, Cartographers, and Photogrammetrists	17-1020	131
Aerospace Engineers	17-2011	132
Agricultural Engineers	17-2021	133
Biomedical Engineers	17-2031	134
Chemical Engineers	17-2041	135
Civil Engineers	17-2051	136
Computer Hardware Engineers	17-2061	140
Electrical and Electronics Engineers	17-2070	141
Environmental Engineers	17-2081	142
Industrial Engineers, including Health and Safety	17-2110	143
Maritime Engineers and Naval Architects	17-2121	144
Materials Engineers	17-2131	145
Mechanical Engineers	17-2141	146
Mining and Geological Engineers	17-2151	150
Nuclear Engineers	17-2161	151
Petroleum Engineers	17-2161	152
Engineers, All Other	14-2171	153
Drafters	17-2199	154
Engineering Technicians, except Drafters	17-3020	155
Surveying and Mapping Technicians	17-3031	156
Life, Physical, and Social Science Occupations (21)	19-0000	160-199
Agricultural and Food Scientists	19-1010	160
Biological Scientists	19-1020	161
Conservation Scientists and Foresters	19-1030	164
Medical Scientists	19-1040	165
Astronomers and Physicists	19-2010	170
Atmospheric and Space Scientists	19-2021	171
Chemists and Materials Scientists	19-2030	172
Environmental Scientists and Geoscientists	19-2040	174

Occupation	SOC	Census 2000
Physical Scientists, All Other	19-2099	176
Economists	19-3011	180
Market and Survey Researchers	19-3020	181
Psychologists	19-3030	182
Sociologists	19-3041	183
Urban and Regional Planners	19-3051	184
Miscellaneous Social Scientists and Related Workers	19-3090	186
Agricultural and Food Scientists	19-4011	190
Biological Technicians	19-4021	191
Chemical Technicians	19-4031	192
Geological and Petroleum Technicians	19-4041	193
Nuclear Technicians	19-4051	194
Other Life, Physical and Social Science Technicians	19-40xx	196
Education, Training, and Library Occupations (11)	25-0000	220-259
Postsecondary Teachers	25-1000	220
Preschool and Kindergarten Teachers	25-2010	230
Elementary and Middle School Teachers	25-2020	231
Secondary School Teachers	25-2030	232
Special Education Teachers	25-2040	233
Other Teachers and Instructors	25-3000	234
<i><u>Archivists, Curators, and Museum Technicians</u></i>	25-4010	240
<i><u>Librarians</u></i>	25-4021	243
<i><u>Library Technicians</u></i>	25-4031	244
Teacher Assistants	25-9041	254
Other Education, Training, and Library Workers	25-90xx	255
Arts, Design, Entertainment, Sports & Media Occupations (19)	27-0000	260-299
<i><u>Artists and Related Workers</u></i>	27-1010	260
<i><u>Designers</u></i>	27-1020	263
<i><u>Actors</u></i>	27-2011	270
<i><u>Producers and Directors</u></i>	27-2012	271
Athletes, Coaches, Umpires and Related Workers	27-2020	272
<i><u>Dancers and Choreographers</u></i>	27-2030	274
<i><u>Musicians, Singers and Related Workers</u></i>	27-2040	275
<i><u>Entertainers and Performers, Sports and Related Workers.</u></i>	27-2099	276
<i><u>All Other</u></i>		
<i><u>Announcers</u></i>	27-3010	280

Occupation	SOC	Census 2000
<i>News Analysts, Reporters, and Correspondents</i>	27-3020	281
<i>Public Relations Specialists</i>	27-3031	282
<i>Editors</i>	27-3041	283
<i>Technical Writers</i>	27-3042	284
<i><u>Writers and Authors</u></i>	27-3043	285
<i>Miscellaneous Media and Communications Workers</i>	27-3090	286
<i>Broadcast & Sound Engineering Technicians & Radio Operators</i>	27-4010	290
<i><u>Photographers</u></i>	27-4021	291
<i>Television, Video, & Motion Picture Camera Operators & Editors</i>	27-4030	292
<i>Media and Communications Equipment Workers, All Other</i>	27-4099	296

Table 5: Creative Workforce and Enhanced Creative Workforce Occupations Outside Florida’s “Super-Creative Core”

Occupation	SOC	Census 2000
Business and Financial Operations Occupations	13-0000	050-099
<i>Agents and Business Managers of Artists, Performers, & Athletes</i>	13-1011	050
Personal Care and Service Occupations	39-0000	430-469
<i>Motion Picture Projectionists</i>	39-3021	441
<i>Ushers, Lobby Attendants, and Ticket Takers</i>	39-3031	442
Office and Administrative Support Occupations	43-0000	500-599
<i>Library Assistants, Clerical</i>	43-4121	532
Installation, Maintenance and Repair Occupations	49-0000	700-769
<i>Precision Instrument and Equipment Repairers</i>	49-9060	743
Production Occupations	51-0000	770-899
<i>Model Makers and Patternmakers, Metal and Plastic</i>	51-4060	806
<i><u>Cabinet Workers and Bench Carpenters</u></i>	51-7011	850
<i>Furniture Finishers</i>	51-7021	851
<i>Wood Patternmakers and Model Makers</i>	51-7030	852
<i>Jewelers and Precious Stone and Metal Workers</i>	51-9071	875
<i><u>Painting Workers</u></i>	51-9120	881
<i>Etchers and Engravers</i>	51-9194	891

These alternative definitions encompass very different shares of the labor force. Using the 2000 Census Public Use Microdata Sample as the basis for estimates, the Creative Class encompassed about a third of the US workforce. The Super-Creative Core accounted for just under 15 percent of the labor force. By comparison, the Creative

Workforce as defined in the 2000 Mt. Auburn report would account for 1.6 percent, and the Enhanced Creative Workforce suggested by Wassall accounts for 2.6 percent. Corresponding percentages in New England are slightly higher, reflecting the region's industry mix and better-educated workforce.

Since the purpose of this paper is to set the stage for a discussion of alternative definitions of a Creative Workforce and a Creative Cluster, the discussion of the workforce alternatives is not pursued beyond this point. However, it is clear that this discussion will revolve around at least the following points. Should the Creative Workforce continue to be defined based on its nexus with cultural production? If so, are there additional occupations that can be considered part of it? And, should workers in goods-producing occupations be part of this workforce, even if some or many of them captured in this taxonomy are not producing craft or artisanal products? Alternatively, should the Creative Workforce definition embrace other arguably non-cultural creative occupations? Should it be as broad as the Super-Creative Core? If it should be narrower, what criteria should be applied to eliminate occupations?

Parsing the Creative Cluster

In this sub-section we discuss the process of identifying groups of industries that combine to form the Creative Cluster as defined in New England. In the *Creative Economy Initiative*, the Creative Cluster was assembled by identifying “enterprises . . . that . . . produce cultural products” as its guiding principle. Through this process, 31 NAICS industries (plus self-employed creative workers) were designated as meeting this criterion.

Estimates of employment in this Creative Cluster were then made using information from the 1997 Economic Census. The Economic Census is based on data collected from surveys of establishments throughout the country. It releases information by industry, using the North American Industry Classification System (NAICS) taxonomy, on the number of establishments, sales receipts, number of employees, and payroll. This information is available by state and metropolitan area for all but two major NAICS sectors; in some sectors information is available even at the county and lower level.

The NAICS is a relatively new system, having been officially adopted in 1997. It has been in use since the 1997 Economic Census. The Economic Censuses prior to 1997 relied on the 1981 Standard Industrial Classification (SIC) system. There are considerable differences between the NAICS and SIC, although crosswalks comparing the two have been published. For many industries, it is not possible to make an exact comparison between information published using the SIC and using NAICS. The NAICS system, however, permits very narrow and fine definitions of industries, subject to data availability.

Unlike the Census, CPS and ACS, one encounters confidentiality and missing information issues in the Economic Census, as the data found therein become disaggregated by industry classification or by geography. Firms are not as plentiful as members of the labor force, and are entitled to confidentiality privileges in government

publications and data releases. When drilling down to six- and seven-digit NAICS industries and to less than state levels, one will occasionally encounter missing information.²¹

Table 6: NAICS Basic Industry Descriptions

Industry	2-Digit NAICS
Agriculture, Forestry, Fishing and Hunting	11
Mining	21
Utilities	22
Construction	23
Manufacturing	31-33
Wholesale Trade	42
Retail Trade	44-45
Transportation and Warehousing	48-49
Information	51
Finance and Insurance	52
Real Estate and Rental and Leasing	53
Professional, Scientific and Technical Services	54
Management of Companies and Enterprises	55
Administrative and Support and Waste Management and Remediation Services	56
Educational Services	61
Health Care and Social Assistance	62
Arts, Entertainment and Recreation	71
Accommodation and Food Services	72
Other Services (except Public Administration)	81
Public Administration	92

Although a new Economic Census is released every five years, it is possible to update most of the information in it on an annual basis. The County Business Patterns releases comparable information annually. However, it does not publish data on receipts, and it does not break down industry data into for- and non-profit categories. There are proprietary data sources that publish establishment data using a NAICS taxonomy, such as Dun and Bradstreet. These data sources require a paid subscription to gain access. Last, if one is searching for employment data only but on an industry reporting basis, both OES releases and ES202 data can provide that information.

²¹For those not familiar with these databases, the Census, CPS and ACS consist of data files containing observable information on anonymous individuals. It is up to the researcher to generate reports using these databases, and to determine the level of statistical significance that s/he is comfortable with in these reports. With the Economic Census and related databases, researchers never see firm-level data, but have access to industry summaries. Thus if the sample size in an industry is deemed sufficiently small so that individual firm data may be compromised, an “NA” is the statistic reported.

As with the workforce data, a useful starting point in converging on a set of creative industries is first to examine the most elemental industry groups using the NAICS taxonomy, and then drill down into more narrow and specific categories. For NAICS, the broadest and most basic groups are the two-digit categories, called sectors, shown in Table 6 above. This classification begins with resource-based and extractive industries, moves to goods production, wholesale and retail trade, and then to a variety of services. Because cultural goods can go through several stages of production, it is generally not possible simply to define two-digit industry groups that can be deemed cultural. The same stream of goods may show up at the manufacturing, wholesale, and retail levels. Also, in the flow of goods, often no distinction is made at the two-digit level between cultural and other products. However, there are some two-digit service sectors that are clearly dominated by cultural products and services. The most obvious choice is NAICS 71, Arts, Entertainment, and Recreation. Also, NAICS 54, Professional, Scientific and Technical Services and NAICS 51, Information, contain several elements of the cultural sector as well.

This can be seen in Table 7 below, which shows the industry breakdown of the original New England Creative Cluster defined by Mt. Auburn. The 2000 report defined seven industry groupings, organized by “product lines”, and assigned 31 NAICS industries, most at the five-digit level, into these clusters. Roughly three-fourths of the industries identified belong in one of the three two-digit sectors referenced in the paragraph above. A few other industries describe manufacturing of cultural goods, but there is almost no representation of wholesale and retail trade in this categorization.²²

Table 7: New England Creative Cluster Definition by NAICS Categories

Product Line / Industry	NAICS
Applied Arts	
Architectural Services	54131
Interior Design Services	54141
Industrial Design Services	54142
Graphic Design Services	54143
Other Specialized Design Services	54149
Advertising Agencies	54181
Display Advertising	54185
Photographic Services	54192
Performing Arts: Music, Theater, and Dance	
Theater Companies and Dinner Theaters	71111
Dance Companies	71112
Musical Groups and Artists	71113
Other Performing Arts Companies	71119

²²In an attempt to incorporate self-employed workers into the Creative Cluster, the NAICS category “Incorporated Independent Artists, Writers and Performers” was also included separately. Since this category does not include the unincorporated self-employed, an estimate of their numbers was made by counting those in the artist occupations in the CPS reporting self-employment status.

Product Line / Industry	NAICS
Musical Instrument and Supplies Stores	45114
Musical Instrument Manufacturing	339992
Promoters of Performing Arts	7113
Visual Arts	
Art Dealers	45392
Camera and Photographic Supplies Stores	44313
Agents and Managers for Artists	71141
Photographic Film, Paper, Plate, and Chemical Manufacturing	325992
Lead Pencil and Art Good Manufacturing	339942
Art Print Gravure Printing	323111
Literary Arts	
Book Publishers	511130
Media	
Radio Broadcasting	51311
Television Broadcasting	51312
Cable Networks	51321
Cable and Other Program Distribution	51322
Motion Picture and Sound Recording Industry	512
Prerecorded Compact Disk, Tape, and Record Reproducing	334612
Heritage	
Museums	71211
Historical Sites	71212
Support	
Fine Arts Schools	61161
Independent Artists, Writers, and Performers - Incorporated	71151
Independent Artists, Writers, and Performers - Unincorporated	CPS

The next stage in this process is to identify as broadly as feasible those industries which contain creative enterprises, and then relate these to the New England Creative Cluster definition. Here the task is more difficult than it was with the workforce taxonomies, for several reasons. First, many of the definitions of creative industries cited in the literature generally do not directly correspond to NAICS classifications. Second, there is no clear leading candidate, such as the “Super-Creative Core”, that can be used as a main reference. Third, the problem arises of what manufacturing and service industries to include when they may contain a mix of creative and less creative products.

Nevertheless, an attempt is made in Table 8 below. Three-digit industries of interest are identified in bold black. Of the five and six-digit industries, the industries that are *italicized and underlined* are those present in the original New England Creative Cluster definition, and the industries that are *italicized* are suggested additions. The guiding principles used to extract industries to form a creative economy as found in Table 7 are essentially those espoused by Howkins and others. Since Howkins is explicit in describing his concept, it is easiest to follow his lead.

The major principle is to include all creative products that are marketed. Obviously this encompasses all cultural products and services.²³ An attempt was made to be as inclusive as possible in this respect, entering candidates in industries and at all levels of production, even when the cultural product may generate only a small percentage of the industry output. Some examples of this are in order. Although there are several instances in this table of six-digit industries in manufacturing which produce cultural products, other broader three-digit industries, such as Fabric Mills, Apparel Manufacturing, and Leather and Allied Product Manufacturing are included as well, with no breakdowns to cultural product lines. In industries such as these, if one drills down to narrower definitions, one does not discover smaller pockets of cultural production, because all goods produced are still essentially similar. A high-fashion gown and a mass-produced gown are made using essentially the same processes and raw materials; the same is true for artisanal and mass-produced leather products. One finds no NAICS classification for fashion goods, or high quality goods in these sectors, even though products such as these are often referenced in descriptions of creative economies. Thus industries 313, 314, 315, 316, 317, and 323 are essentially serving as proxies in this table for cultural products which can not be singled out using this taxonomy. These industries would have to be dropped when estimating the size of the creative economy.

A corollary of this principle is that a creative economy is more inclusive than a cultural economy, including activities that relate to the development of intellectual property of all types, such as patents, and internet-related activity. For example, Howkins identifies fifteen core creative sectors. Although many fall nicely within the confines of the term “cultural,” his concept also embraces the following sectors: Advertising, Publishing, Research and Development, Software, Toys and Games, and Video Games.²⁴ Parts of some of these sectors can be found in the Creative Cluster. However, an effort was made in compiling Table 8 to expand the number of industries in areas already found in the Creative Cluster, and to embrace the areas which are not.

Still, not all of the activities in these fifteen sectors are represented. NAICS does not recognize a fashion industry. Similarly, although research and development is conducted by a variety of firms, it is not an industry. Many firms which spend large sums on R&D produce output, such as state-of-the-art weapons, that hardly fit into a creative economy

²³To use Howkins’ term: there must be “financial transactions in creative products.” Howkins, *The Creative Economy*, p. 85.

²⁴Howkins, Chapter 3. The others are Architecture, Art, Crafts, Design, Fashion, Film, Music, Performing Arts, and TV and Radio.

concept. Other types of intellectual property, such as trademarks, do not fit nicely into creative industry categories either.

There are other distinctions between the creative economy industries found in Table 8 and the Creative Cluster. This creative economy concept is more commercial, including cultural product lines and retail outlets throughout the product chain. It embraces more of the cultural industries found in NAICS 71. However, it does not include sports, exercise, and gambling. And it includes at least two activities not found in previous concepts of cultural or creative economies: sightseeing transportation and grantmaking.

Last, it should be noted that these creative industry guidelines do not conform to membership in the Super-Creative Core of the labor force. The latter includes educators, social scientists, scientists and engineers. The New England Creative Economy Initiative definition excludes education, except schools devoted specifically to arts and craft training. It cannot embrace industries which do not produce creative products, such as aircraft construction and oil and gas exploration, where many scientists and engineers work. And it does not include government, which employs many social scientists and physical scientists. These issues nevertheless should be fodder for further discussion.

Table 8: NAICS 3-Digit Industry Descriptions Consistent with Creative Products and Services, and Detailed Breakdowns

Industry	NAICS
Fabric Mills	313
Textile Product Mills	314
Apparel Manufacturing	315
Leather and Allied Product Manufacturing	316
Printing and Related Support Services	323
<i>Commercial Lithographic Printing</i>	323110
<i>Commercial Gravure Printing</i>	323111
<i>Commercial Screen Printing</i>	323113
<i>Quick Printing</i>	323114
<i>Digital Printing</i>	323115
<i>Books Printing</i>	323117
<i>Other Commercial Printing</i>	323119
<i>Tradebinding and Related Work</i>	323121
<i>Prepress Services</i>	323122
Chemical Manufacturing	325
<i>Printing Ink Manufacturing</i>	325910
<i>Photographic Film, Paper, Plate and Chemical Manufacturing</i>	325992
Nonmetallic Mineral Product Manufacturing	327
<i>Vitreous China, Fine Earthenware, and Other Pottery Product Mfg.</i>	327112

Industry	NAICS
<i>Other Pressed and Blown Glass and Glassware Manufacturing</i>	327212
<i>Glass Product Manufacturing Made of Purchased Glass</i>	327215
<i>Gypsum Product Manufacturing</i>	327420
<i>Cut Stone and Stone Product Manufacturing</i>	327991
<i>All Other Miscellaneous Nonmetallic Mineral Product Manufacturing</i>	327999
Fabricated Metal Product Manufacturing	332
<i>Ornamental and Architectural Metal Work Manufacturing</i>	332323
Machinery Manufacturing	333
<i>Printing Machinery and Equipment Manufacturing</i>	333293
<i>Photographic and Photocopying Equipment Manufacturing</i>	333315
Computer and Electronic Product Manufacturing	334
<i>Radio & Television Broadcasting and Wireless Equipment Manufacturing</i>	33422
<i>Audio and Video Equipment Manufacturing</i>	33431
<i><u>Prerecorded Compact Disc (except Software), Tape, and Record Reproducing</u></i>	334612
<i>Magnetic and Optical Recording Media Manufacturing</i>	334613
<i>Boat Building</i>	336612
Furniture and Related Product Manufacturing	337
<i>Custom Architectural Woodwork and Millwork Manufacturing</i>	337212
Miscellaneous Manufacturing	339
<i>Jewelry (except Costume) Manufacturing</i>	339911
<i>Silverware and Hollowware Manufacturing</i>	339912
<i>Jewelers' Material and Lapidary Work Manufacturing</i>	339913
<i>Costume Jewelry and Novelty Manufacturing</i>	339914
<i><u>Lead Pencil and Art Good Manufacturing</u></i>	339942
<i><u>Musical Instrument Manufacturing</u></i>	339992
Merchant Wholesalers, Durable Goods	423
<i>Photographic Equipment and Supplies Merchant Wholesalers</i>	423410
<i>Electrical & Electronic Appliance, Television, & Radio Set Merchant Wholesalers</i>	423620
<i>Toy and Hobby Goods and Supplies Merchant Wholesalers</i>	423920
<i>Jewelry, Watch, Precious Stone, and Precious Metal Merchant Wholesalers</i>	423940
Merchant Wholesalers, Nondurable Goods	424
<i>Printing and Writing Paper Merchant Wholesalers</i>	424110
<i>Book, Periodical, and Newspaper Merchant Wholesalers</i>	424920
Furniture and Home Furnishings Stores	442

Industry	NAICS
Electronic and Appliance Stores	443
<i>Radio, Television, and Other Electronics Stores</i>	443112
<i><u>Camera and Photographic Supplies Stores</u></i>	443120
Clothing and Clothing Accessories Stores	448
<i>Jewelry Stores</i>	448310
Sporting Goods, Hobby, Book, and Music Stores	451
<i>Hobby, Toy, and Game Stores</i>	451120
<i>Sewing, Needlework, and Piece Goods Stores</i>	451130
<i><u>Musical Instrument and Supplies Stores</u></i>	451140
<i>Book Stores</i>	451211
<i>News Dealers and Newsstands</i>	451212
<i>Prerecorded Tape, Compact Disc, and Record Stores</i>	451220
Miscellaneous Store Retailers	453
<i>Gift, Novelty, and Souvenir Stores</i>	453220
<i><u>Art Dealers</u></i>	453920
Publishing Industries (except Internet)	511
<i>Newspaper Publishers</i>	511110
<i>Periodical Publishers</i>	511120
<i><u>Book Publishers</u></i>	511130
<i>Greeting Card Publishers</i>	511191
<i>All Other Publishers</i>	511199
<i>Software Publishers</i>	511210
<i>Motion Picture and Sound Recording Industries</i>	512
<i><u>Motion Picture and Video Production</u></i>	512110
<i><u>Motion Picture and Video Distribution</u></i>	512120
<i><u>Motion Picture Theaters (except Drive-Ins)</u></i>	512131
<i>Drive-In Motion Picture Theaters</i>	512132
<i><u>Teleproduction and Other Postproduction Services</u></i>	512191
<i><u>Other Motion Picture and Video Industries</u></i>	512199
<i><u>Record Production</u></i>	512210
<i>Integrated Record Production/Distribution</i>	512220
<i><u>Music Publishers</u></i>	512230
<i><u>Sound Recording Studios</u></i>	512240
<i><u>Other Sound Recording Industries</u></i>	512290
<i><u>Broadcasting (except Internet)</u></i>	515
<i><u>Radio Networks</u></i>	515111
<i><u>Radio Stations</u></i>	515112
<i><u>Television Broadcasting</u></i>	515120
<i><u>Cable and Other Subscription Programming</u></i>	515210

Industry	NAICS
Internet Publishing and Broadcasting	516
<i>Internet Publishing and Broadcasting</i>	516110
Telecommunications	517
<i>Cable and Other Program Distribution</i>	517510
Other Information Services	519
<i>News Syndicates</i>	519110
<i>Libraries and Archives</i>	519120
Rental and Leasing Services	532
<i>Formal Wear and Costume Rental</i>	532220
<i>Video Tape and Disc Rental</i>	532230
<i>All Other Consumer Goods Rental</i>	532299
Professional and Scientific Services	541
<i>Architectural Services</i>	541310
<i>Landscape Architectural Services</i>	541320
<i>Drafting Services</i>	541340
<i>Interior Design Services</i>	541410
<i>Industrial Design Services</i>	541420
<i>Graphic Design Services</i>	541430
<i>Other Specialized Design Services</i>	541490
<i>Advertising Agencies</i>	541810
<i>Public Relations Agencies</i>	541820
<i>Media Buying Agencies</i>	541830
<i>Media Representatives</i>	541840
<i>Display Advertising</i>	541850
<i>Direct Mail Advertising</i>	541860
<i>Other Services Related to Advertising</i>	541890
<i>Photography Studios, Portrait</i>	541921
<i>Commercial Photography</i>	541922
Educational Services	611
<i>Other Technical and Trade Schools</i>	611519
<i>Fine Arts Schools</i>	611610
Performing Arts, Spectator Sports, and Related Industries	711
<i>Theater Companies and Dinner Theaters</i>	711110
<i>Dance Companies</i>	711120
<i>Musical Groups and Artists</i>	711130
<i>Other Performing Arts Companies</i>	711190
<i>Promoters of Performing Arts, Sports, and Similar Events with Facilities</i>	711310

Industry	NAICS
<i>Promoters of Performing Arts, Sports, and Similar Events without Facilities</i>	711320
<i>Agents & Managers for Artists, Athletes, Entertainers, & Other Public Figures</i>	711410
<i>Independent Artists, Writers, and Performers</i>	711510
Museums, Historical Sites, and Similar Institutions	712
<i>Museums</i>	712110
<i>Historical Sites</i>	712120
<i>Zoos and Botanical Gardens</i>	712130
<i>Nature Parks and Other Similar Institutions</i>	712190
Personal and Laundry Services	812
<i>Photofinishing Laboratories (except One-Hour)</i>	812921
<i>One-Hour Photofinishing</i>	812922
Religious, Grantmaking, Civic, Professional, & Similar Organizations	813

In regard to the Creative Cluster, another significant source of information that is factored into the U.S. Economic Census and the Current Population Survey, is data derived from the Internal Revenue Service Form 990 returns of non-profit organizations. In the case of the U.S. Economic census, a breakdown is provided between for-profit and non-profit enterprises, while the Current Population Survey makes no such distinction.

The IRS releases scanned images of the Form 990 returns to the National Center for Charitable Statistics, a program of the Center on Nonprofits and Philanthropy at the Urban Institute. In recent years, the Form 990 returns have been independently digitized in their entirety through a partnership between the Urban Institute and Philanthropic Research, Incorporated (GuideStar). The resulting proprietary data has been made available to a limited degree to qualified researchers for analysis purposes only. In New England, this has been an important component of creative economy research that is focused on the non-profit sector.

Non-profit financial data in the NCCS/GuideStar database is categorized by a separate system, the National Taxonomy of Exempt Entities (NTEE). The NTEE categories that correspond with the Creative Cluster six-digit NAICS sectors listed above are identified in Table 9:

Table 9: Correspondence between NTEE Sectors and Creative Cluster NAICS Sectors

Industry	NAICS	NTEE	
<i>Newspaper Publishers</i>	511110	A30, X80	A33, X83
<i>Periodical Publishers</i>	511120		
<i>Book Publishers</i>	511130		

Industry	NAICS	NTEE		
<u>Motion Picture and Video Production</u>	512110		A31, X81	
<u>Motion Picture and Video Distribution</u>	512120			
<u>Motion Picture Theaters (except Drive-Ins)</u>	512131			
<u>Teleproduction and Other Postproduction Services</u>	512191			
<u>Other Motion Picture and Video Industries</u>	512199			
<u>Record Production</u>	512210			N/A
<u>Integrated Record Production/Distribution</u>	512220			N/A
<u>Music Publishers</u>	512230			N/A
<u>Sound Recording Studios</u>	512240			N/A
<u>Other Sound Recording Industries</u>	512290			N/A
<u>Radio Networks</u>	515111			A34, X84
<u>Radio Stations</u>	515112			
<u>Television Broadcasting</u>	515120	A32, X82		
<u>Cable and Other Subscription Programming</u>	515210			
<u>Libraries and Archives</u>	519120	B70		
<u>Fine Arts Schools</u>	611610	A25, A6E		
<u>Theater Companies and Dinner Theaters</u>	711110	A60, A61	A65	
<u>Dance Companies</u>	711120		A62, A63	
<u>Musical Groups and Artists</u>	711130		A68, A69, A6A, A6B, A6C	
<u>Other Performing Arts Companies</u>	711190			
<u>Museums</u>	712110		A50, A51, A52, A54, A56, A57	
<u>Historical Sites</u>	712120		A80, A84	
<u>Zoos and Botanical Gardens</u>	712130		C40, C41, D50	
<u>Nature Parks and Other Similar Institutions</u>	712190		C60, D32, D34, N32	
<u>Other Grantmaking and Giving Services</u>	813219		A11, A12, A19, A90	

At this point, it is time to end these comments so that an open discussion of alternative definitions of the creative economy can be pursued. Many of the questions posed for a Creative Workforce can be reiterated here. Do we wish to retain the current concept? Should the number of industries be enhanced? Should the concept remain limited to cultural goods and services, or should it be opened to the more inclusive creative goods and services? If so, should this be done along the lines suggested by Howkins and others, or should an alternative be considered?

V. Recommendations for Future Creative Economy Research

In the sections above, we have reviewed the development of the concept of the creative economy as an economic sector, both in the U.S. and abroad. This discussion has reviewed the relationship between definitions of the creative economy based on the development of intellectual innovation and those based on the creation of cultural goods and services. Following this contextual framing, we have examined the major secondary data sources available for measuring the creative economy in the U.S., and the constraints imposed by the categorization systems employed in reporting aggregated data.

This section proposes a set of revisions to the core definition of the creative economy used for research in New England, and suggests a series of research protocols that we believe should be followed by any researcher in the region who wishes to make a contribution to our knowledge about creative economic activity. By following these protocols, researchers can insure that the findings of any one study will be comparable with other studies. Such comparability will enhance the value of individual research and reduce the possibility of conflicting and confusing results that will likely erode the value of this work for public policy.

While our discussion has been focused on New England, the recommendations made in this section have relevance to creative economy work anywhere in the United States.

Defining the Creative Economy

Our discussion above should make clear that the New England definition of the creative economy, while it is among the earliest advanced, does not conform well with international practice. The New England definition is bounded by the production of cultural goods and services, and thus represents a sub-sector of the activity encompassed by most international definitions of the creative economy, which describe the creative economy narrowly as the creation of copyrightable intellectual property, and more broadly as the creation of intellectual innovation. Beyond even this broad definition is that of Richard Florida, which located creativity in any form of symbolic manipulation, or knowledge work.

For the purposes of the New England researcher convening that will review the initial draft of this white paper, we leave it an open question whether the creative economy definition employed by researchers should include copyright industries such as the software industry — which is significantly represented in the region. As a preliminary proposal, we limit our recommendations to a more conservative expansion of the definition advanced in the 2000 Creative Economy Initiative report. Where the 2000 report focused on production, the definition we recommend captures a wider range of the distribution chain, while remaining focused on cultural goods and services.

There is good reason based on both precedent and policy to maintain a focus on cultural goods and services. The current alignment of public policy institutions in the U.S. continues to separate policy issues related to copyright and those related to cultural production, in contrast to the realignments made in a number of other countries in recent

years. We leave open the question of whether such a realignment in the U.S. is equally warranted, but given the current public infrastructure in the U.S., there is good reason to describe cultural economic activity separately.

Following the New England researcher convening that will review this draft, the final definition advanced necessarily will be revised. Should it be determined that the New England definition would best conform with international practice, then we recommend adding a number of copyright-related industries to the regional definition, and will present several alternatives at the convening. On the other hand, if a cultural focus is to be maintained, we recommend modifying the terminology employed by this definition. Clearly, “Creative Workers” and “Creative Cluster” as employed in New England are no longer unambiguous terms. Instead, we recommend employing the terms that Mt. Auburn uses for its Louisiana study: “Cultural Workforce” and “Cultural Enterprises.” This would also require describing the sector as the “Cultural Economy” and identifying it as the major sub-component of the “creative economy.” This is the course we pursue here. We may ultimately find the best solution to be an expansion of the current definition while continuing to report on the production of cultural goods and services as a distinct sub-component. With this in mind, the proposed definition provided here can be read as coherent part or as the whole of the final definition.

The definition we advance is presented in relation to the major categorization systems used in the United States. For each categorization system, a set of groupings is provided: a CORE grouping, a PERIPHERAL grouping, and a RELATED grouping. In each case, only the CORE group should be considered part of the cultural component of the creative economy definition. In our opinion, the categories within the core group meet the basic test of categorical completeness — the aggregate data that is available using these categories represents only cultural economic activity *anywhere in the United States*.

Economic activity represented by occupations and industries in the PERIPHERAL group should not be taken as representative of the creative economy, or more narrowly, the cultural economy. Some of the subcategories of industries and occupations represented by these categories produce cultural goods and services, but within the framework of the categorization system in question, these are combined with industries and occupations that do not. We feel that researchers might employ aggregate data available for these categories in certain special circumstances, provided they follow a set of consistent protocols, which we outline below.

Economic activity represented by occupations and industries in the RELATED group should *never* be presented as creative economy or cultural economy activity in the aggregate. Occupations and industries within this group cannot be distinguished on a categorical basis. Researchers should only report on industries and occupations within these categories if they have access to entity-level sources of data.

Recommended Cultural Economy Categories

Standard Occupational Classification System (SOC)

The CORE definition of the cultural economy consists of the following SOC codes. (Codes in original 2000 New England definition are indicated in *italics and underlined.*)

Table 10: CORE Standard Occupational Classification Codes

SOC	Census	Occupation
11-2011	0040	Advertising and Promotions Managers
11-2031	0060	Public Relations Managers
17-1011	1300	<i><u>Architects, Except Landscape and Naval</u></i>
17-1012		<i><u>Landscape Architects</u></i>
17-3011	[Part of 1540]	Architectural and Civil Drafters
19-3091	[Part of 1860]	Anthropologists and Archeologists
19-3093	[Part of 1860]	Historians
25-1031	[Part of 2200]	Architecture Teachers, Postsecondary
25-1061	[Part of 2200]	Anthropology and Archeology Teachers, Postsecondary
25-1062	[Part of 2200]	Area, Ethnic, and Cultural Studies Teachers, Postsecondary
25-1082	[Part of 2200]	Library Science Teachers, Postsecondary
25-1121	[Part of 2200]	Art, Drama, and Music Teachers, Postsecondary
25-1122	[Part of 2200]	Communications Teachers, Postsecondary
25-1123	[Part of 2200]	English Language and Literature Teachers, Postsecondary
25-1124	[Part of 2200]	Foreign Language and Literature Teachers, Postsecondary
25-1125	[Part of 2200]	History Teachers, Postsecondary
25-4011	2400	<i><u>Archivists</u></i>
25-4012		<i><u>Curators</u></i>
25-4013		<i><u>Museum Technicians and Conservators</u></i>
25-4021	2430	Librarians
25-4031	2440	Library Technicians
25-9011	[Part of 2550]	Audio-Visual Collections Specialists
27-1011	2600	<i><u>Art Directors</u></i>
27-1012		<i><u>Craft Artists</u></i>
27-1013		<i><u>Fine Artists, Including Painters, Sculptors, and Illustrators</u></i>
27-1014		<i><u>Multi-Media Artists and Animators</u></i>
27-1019		<i><u>Artists and Related Workers, All Other</u></i>
27-1021	2630	<i><u>Commercial and Industrial Designers</u></i>
27-1022		<i><u>Fashion Designers</u></i>
27-1023		<i><u>Floral Designers</u></i>
27-1024		<i><u>Graphic Designers</u></i>
27-1025		<i><u>Interior Designers</u></i>
27-1026		<i><u>Merchandise Displayers and Window Trimmers</u></i>
27-1027		<i><u>Set and Exhibit Designers</u></i>
27-1029		<i><u>Designers, All Other</u></i>
27-2011	2700	<i><u>Actors</u></i>
27-2012	2710	<i><u>Producers and Directors</u></i>

SOC	Census	Occupation	
27-2031	2740	<i><u>Dancers</u></i>	
27-2032		<i><u>Choreographers</u></i>	
27-2041	2750	<i><u>Music Directors and Composers</u></i>	
27-2042		<i><u>Musicians and Singers</u></i>	
27-3011	2800	<i><u>Radio and Television Announcers</u></i>	
27-3012		<i><u>Public Address System and Other Announcers</u></i>	
27-3021	2810	Broadcast News Analysts	
27-3022		Reporters and Correspondents	
27-3031	2820	Public Relations Specialists	
27-3041	2830	Editors	
27-3042	2840	Technical Writers	
27-3043	2850	<i><u>Writers and Authors</u></i>	
27-3099	2860	Media and Communication Workers, All Other	
27-4011	2900	Audio and Video Equipment Technicians	
27-4012		Broadcast Technicians	
27-4013		Radio Operators	
27-4014		Sound Engineering Technicians	
27-4021	2910	<i><u>Photographers</u></i>	
27-4031	2920	Camera Operators, Television, Video, and Motion Picture	
27-4032		Film and Video Editors	
27-4099	2960	Media and Communication Equipment Workers, All Other	
39-3021	4410	Motion Picture Projectionists	
39-3092	[Part of 4430]	Costume Attendants	
39-5091	[Part of 4520]	Makeup Artists, Theatrical and Performance	
41-3011	4800	Advertising Sales Agents	
43-4121	5320	Library Assistants, Clerical	
43-9031	5830	Desktop Publishers	
49-2097	7120	Electronic Home Entertainment Equipment Installers and Repairers	
49-9061		[Part of 7430]	Camera and Photographic Equipment Repairers
49-9063		[Part of 7430]	Musical Instrument Repairers and Tuners
49-9064		[Part of 7430]	Watch Repairers
51-4061	8060	Model Makers, Metal and Plastic	
51-4062		Patternmakers, Metal and Plastic	
51-7021	8510	Furniture Finishers	
51-7031	8520	Model Makers, Wood	
51-7032		Patternmakers, Wood	
51-9071	8750	Jewelers and Precious Stone and Metal Workers	
51-9123	[Part of 8810]	<i><u>Painting, Coating, and Decorating Workers</u></i>	
51-9131	8830	Photographic Process Workers	
51-9132		Photographic Processing Machine Operators	

It should be noted that the major secondary sources of data in the U.S. that are relevant to workforce analysis, while based on the SOC codes, employ the Census Occupational Codes, which do not directly correspond. For this reason, while the SOC codes provide a breakdown of occupations that is more directly relevant to creative economy analysis,

most research will be limited to the categories available in the Census Occupational Code system, described below.

Also note that we have deprecated the inclusion of 51-9120 in the core definition, as it was used in the 2000 Creative Economy Initiative report.

Table 11: PERIPHERAL Standard Occupational Classification Codes

SOC	Census	Occupation
13-1011	0500	Agents and Business Managers of Artists, Performers, and Athletes
29-1125	3210	Recreational Therapists
35-1011	4000	Chefs and Head Cooks
35-2014	[Part of 4020]	Cooks, Restaurant
39-3031	4420	Ushers, Lobby Attendants, and Ticket Takers
39-6021	4540	Tour Guides and Escorts
39-6022		Travel Guides
39-9032	[Part of 4620]	Recreation Workers
51-3011	7800	Bakers
51-5021	8240	Job Printers
51-5022	8250	Prepress Technicians and Workers
51-5023	8260	Printing Machine Operators
51-6052	[Part of 8350]	Tailors, Dressmakers, and Custom Sewers
51-7011	8500	<i>Cabinetmakers and Bench Carpenters</i>
51-7099	8550	Woodworkers, All Other
51-9195	8920	Molders, Shapers, and Casters, Except Metal and Plastic

It should be noted that 51-7011, which was included as part of the core definition in the 2000 Creative Economy Initiative report, has been moved to the peripheral group.

Census Occupational Codes

The following census occupational codes are included in the core definition. (Codes in original 2000 New England definition are indicated in *italics and underlined.*)

Table 12: CORE Census Occupational Codes

Census Code	Occupation
0040	Advertising and promotions managers
0060	Public relations managers
1300	<i><u>Architects, except naval</u></i>
2400	<i><u>Archivists, curators, and museum technicians</u></i>
2430	<i><u>Librarians</u></i>
2440	<i><u>Library technicians</u></i>
2600	<i><u>Artists and related workers</u></i>
2630	<i><u>Designers</u></i>
2700	<i><u>Actors</u></i>
2710	<i><u>Producers and directors</u></i>
2740	<i><u>Dancers and choreographers</u></i>
2750	<i><u>Musicians, singers, and related workers</u></i>
2800	<i><u>Announcers</u></i>
2810	<i><u>News analysts, reporters and correspondents</u></i>
2820	<i><u>Public relations specialists</u></i>
2830	<i><u>Editors</u></i>
2840	<i><u>Technical writers</u></i>
2850	<i><u>Writers and authors</u></i>
2860	<i><u>Miscellaneous media and communication workers</u></i>
2900	<i><u>Broadcast and sound engineering technicians and radio operators</u></i>
2910	<i><u>Photographers</u></i>
2920	Television, video, and motion picture camera operators and editors
2960	Media and communication equipment workers, all other
4410	Motion picture projectionists
4800	Advertising sales agents
5320	Library assistants, clerical
5830	Desktop publishers
7120	Radio and telecommunications equipment installers and repairers
8060	Model makers and patternmakers, metal and plastic
8510	Furniture finishers
8520	Model makers and patternmakers, wood
8750	Jewelers and precious stone and metal workers
8830	Photographic process workers and processing machine operators

Table 13: PERIPHERAL Census Occupational Codes

Census	Occupation
0500	Agents and business managers of artists, performers, and athletes
3210	Recreational therapists
4000	Chefs and head cooks
4420	Ushers, lobby attendants, and ticket takers
4540	Tour and travel guides
7800	Bakers
8240	Job printers
8250	Prepress technicians and workers
8260	Printing machine operators
8500	<i><u>Cabinetmakers and bench carpenters</u></i>
8550	Woodworkers, all other
8920	Molders, shapers, and casters, except metal and plastic

North American Industrial Classification System (NAICS)

The following NAICS codes are included in the core definition. (Codes in original 2000 New England definition are indicated in *italics and underlined.*)

Table 14: CORE North American Classification System (NAICS) Codes

NAICS	Industry
323110	Commercial Lithographic Printing
323111	<i><u>Commercial Gravure Printing</u></i>
323113	Commercial Screen Printing
323115	Digital Printing
323117	Books Printing
323121	Tradebinding and Related Work
323122	Prepress Services
325992	<i><u>Photographic Film, Paper, Plate, and Chemical Manufacturing</u></i>
332323	Ornamental and Architectural Metal Work Manufacturing
333293	Printing Machinery and Equipment Manufacturing
334310	Audio and Video Equipment Manufacturing
334612	<i><u>Prerecorded Compact Disc (except Software), Tape, and Record Reproducing</u></i>
337212	Custom Architectural Woodwork and Millwork Manufacturing
339911	Jewelry (except Costume) Manufacturing
339912	Silverware and Hollowware Manufacturing
339913	Jewelers' Material and Lapidary Work Manufacturing
339914	Costume Jewelry and Novelty Manufacturing
339942	<i><u>Lead Pencil and Art Good Manufacturing</u></i>
339992	<i><u>Musical Instrument Manufacturing</u></i>
423410	Photographic Equipment and Supplies Merchant Wholesalers
423940	Jewelry, Watch, Precious Stone, and Precious Metal Merchant Wholesalers
424110	Printing and Writing Paper Merchant Wholesalers
424920	Book, Periodical, and Newspaper Merchant Wholesalers
443112	Radio, Television, and Other Electronics Stores
443130	<i><u>Camera and Photographic Supplies Stores</u></i>
448310	Jewelry Stores
451130	Sewing, Needlework, and Piece Goods Stores
451140	<i><u>Musical Instrument and Supplies Stores</u></i>
451211	Book Stores
451220	Prerecorded Tape, Compact Disc, and Record Stores
453920	<i><u>Art Dealers</u></i>
511110	Newspaper Publishers
511120	Periodical Publishers
511130	<i><u>Book Publishers</u></i>
511191	Greeting Card Publishers
512110	<i><u>Motion Picture and Video Production</u></i>
512120	<i><u>Motion Picture and Video Distribution</u></i>
512131	<i><u>Motion Picture Theaters (except Drive-Ins)</u></i>
512132	Drive-In Motion Picture Theaters

NAICS	Industry
512191	<u><i>Teleproduction and Other Postproduction Services</i></u>
512199	<u><i>Other Motion Picture and Video Industries</i></u>
512210	<u><i>Record Production</i></u>
512220	Integrated Record Production/Distribution
512230	<u><i>Music Publishers</i></u>
512240	<u><i>Sound Recording Studios</i></u>
512290	<u><i>Other Sound Recording Industries</i></u>
515111	<u><i>Radio Networks</i></u>
515112	<u><i>Radio Stations</i></u>
515120	<u><i>Television Broadcasting</i></u>
515210	<u><i>Cable and Other Subscription Programming</i></u>
516110	Internet Publishing and Broadcasting
517510	Cable and Other Program Distribution
519110	News Syndicates
519120	Libraries and Archives
532230	Video Tape and Disc Rental
541310	<u><i>Architectural Services</i></u>
541320	Landscape Architectural Services
541340	Drafting Services
541410	<u><i>Interior Design Services</i></u>
541420	<u><i>Industrial Design Services</i></u>
541430	<u><i>Graphic Design Services</i></u>
541490	<u><i>Other Specialized Design Services</i></u>
541810	<u><i>Advertising Agencies</i></u>
541830	Media Buying Agencies
541840	Media Representatives
541850	<u><i>Display Advertising</i></u>
541921	<u><i>Photography Studios, Portrait</i></u>
541922	<u><i>Commercial Photography</i></u>
611610	<u><i>Fine Arts Schools</i></u>
711110	<u><i>Theater Companies and Dinner Theaters</i></u>
711120	<u><i>Dance Companies</i></u>
711130	<u><i>Musical Groups and Artists</i></u>
711190	<u><i>Other Performing Arts Companies</i></u>
711510	<u><i>Independent Artists, Writers, and Performers</i></u>
712110	<u><i>Museums</i></u>
712120	<u><i>Historical Sites</i></u>
712130	Zoos and Botanical Gardens
712190	Nature Parks and Other Similar Institutions
812921	Photofinishing Laboratories (except One-Hour)
812922	One-Hour Photofinishing

Table 15: PERIPHERAL North American Classification System (NAICS) Codes

NAICS	Industry
323114	Quick Printing
323119	Other Commercial Printing
325910	Printing Ink Manufacturing
327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing
327212	Other Pressed and Blown Glass and Glassware Manufacturing
327215	Glass Product Manufacturing Made of Purchased Glass
327420	Gypsum Product Manufacturing
327991	Cut Stone and Stone Product Manufacturing
327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing
333315	Photographic and Photocopying Equipment Manufacturing
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing
334613	Magnetic and Optical Recording Media Manufacturing
336612	Boat Building
423620	Electrical and Electronic Appliance, Television, and Radio Set Merchant Wholesalers
423920	Toy and Hobby Goods and Supplies Merchant Wholesalers
451120	Hobby, Toy, and Game Stores
451212	News Dealers and Newsstands
453220	Gift, Novelty, and Souvenir Stores
511199	All Other Publishers
511210	Software Publishers
532220	Formal Wear and Costume Rental
532299	All Other Consumer Goods Rental
541820	Public Relations Agencies
541860	Direct Mail Advertising
541890	Other Services Related to Advertising
611519	Other Technical and Trade Schools
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities
711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities
711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures

Table 16: RELATED North American Classification System (NAICS) Codes

NAICS	Industry
238340	Tile and Terrazzo Contractors
311320	Chocolate and Confectionery Manufacturing from Cacao Beans
311330	Confectionery Manufacturing from Purchased Chocolate
311340	Nonchocolate Confectionery Manufacturing
311513	Cheese Manufacturing
311520	Ice Cream and Frozen Dessert Manufacturing
311811	Retail Bakeries
311821	Cookie and Cracker Manufacturing
313111	Yarn Spinning Mills
313112	Yarn Texturizing, Throwing, and Twisting Mills
313113	Thread Mills
313210	Broadwoven Fabric Mills
313221	Narrow Fabric Mills
313222	Schiffli Machine Embroidery
313230	Nonwoven Fabric Mills
313241	Weft Knit Fabric Mills
313249	Other Knit Fabric and Lace Mills
313311	Broadwoven Fabric Finishing Mills
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills
313320	Fabric Coating Mills
314110	Carpet and Rug Mills
314121	Curtain and Drapery Mills
314129	Other Household Textile Product Mills
314911	Textile Bag Mills
314912	Canvas and Related Product Mills
314999	All Other Miscellaneous Textile Product Mills
315111	Sheer Hosiery Mills
315119	Other Hosiery and Sock Mills
315191	Outerwear Knitting Mills
315192	Underwear and Nightwear Knitting Mills
315211	Men's and Boys' Cut and Sew Apparel Contractors
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors
315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing
315222	Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing
315223	Men's and Boys' Cut and Sew Shirt (except Work Shirt) Manufacturing
315224	Men's and Boys' Cut and Sew Trouser, Slack, and Jean Manufacturing
315225	Men's and Boys' Cut and Sew Work Clothing Manufacturing
315228	Men's and Boys' Cut and Sew Other Outerwear Manufacturing
315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing
315232	Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing

NAICS	Industry
315233	Women's and Girls' Cut and Sew Dress Manufacturing
315234	Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing
315239	Women's and Girls' Cut and Sew Other Outerwear Manufacturing
315291	Infants' Cut and Sew Apparel Manufacturing
315292	Fur and Leather Apparel Manufacturing
315299	All Other Cut and Sew Apparel Manufacturing
315991	Hat, Cap, and Millinery Manufacturing
315992	Glove and Mitten Manufacturing
315993	Men's and Boys' Neckwear Manufacturing
315999	Other Apparel Accessories and Other Apparel Manufacturing
316110	Leather and Hide Tanning and Finishing
316211	Rubber and Plastics Footwear Manufacturing
316212	House Slipper Manufacturing
316213	Men's Footwear (except Athletic) Manufacturing
316214	Women's Footwear (except Athletic) Manufacturing
316219	Other Footwear Manufacturing
316991	Luggage Manufacturing
316992	Women's Handbag and Purse Manufacturing
316993	Personal Leather Good (except Women's Handbag and Purse) Manufacturing
316999	All Other Leather Good Manufacturing
321911	Wood Window and Door Manufacturing
321918	Other Millwork (including Flooring)
321999	All Other Miscellaneous Wood Product Manufacturing
325222	Noncellulosic Organic Fiber Manufacturing
325510	Paint and Coating Manufacturing
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing
327111	Vitreous China Plumbing Fixture and China and Earthenware Bathroom Accessories Manufacturing
327122	Ceramic Wall and Floor Tile Manufacturing
327123	Other Structural Clay Product Manufacturing
331511	Iron Foundries
331522	Nonferrous (except Aluminum) Die-Casting Foundries
331525	Copper Foundries (except Die-Casting)
331528	Other Nonferrous Foundries (except Die-Casting)
332111	Iron and Steel Forging
332112	Nonferrous Forging
332211	Cutlery and Flatware (except Precious) Manufacturing
332510	Hardware Manufacturing
332994	Small Arms Manufacturing

NAICS	Industry
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing
333210	Sawmill and Woodworking Machinery Manufacturing
333292	Textile Machinery Manufacturing
333298	All Other Industrial Machinery Manufacturing
334518	Watch, Clock, and Part Manufacturing
335121	Residential Electric Lighting Fixture Manufacturing
335129	Other Lighting Equipment Manufacturing
337110	Wood Kitchen Cabinet and Countertop Manufacturing
337121	Upholstered Household Furniture Manufacturing
337122	Nonupholstered Wood Household Furniture Manufacturing
337124	Metal Household Furniture Manufacturing
337125	Household Furniture (except Wood and Metal) Manufacturing
337127	Institutional Furniture Manufacturing
337129	Wood Television, Radio, and Sewing Machine Cabinet Manufacturing
337211	Wood Office Furniture Manufacturing
337214	Office Furniture (except Wood) Manufacturing
337920	Blind and Shade Manufacturing
339931	Doll and Stuffed Toy Manufacturing
339932	Game, Toy, and Children's Vehicle Manufacturing
339950	Sign Manufacturing
339999	All Other Miscellaneous Manufacturing
423210	Furniture Merchant Wholesalers
423690	Other Electronic Parts and Equipment Merchant Wholesalers
423990	Other Miscellaneous Durable Goods Merchant Wholesalers
442110	Furniture Stores
442210	Floor Covering Stores
442291	Window Treatment Stores
442299	All Other Home Furnishings Stores
443111	Household Appliance Stores
448110	Men's Clothing Stores
448120	Women's Clothing Stores
448130	Children's and Infants' Clothing Stores
448140	Family Clothing Stores
448150	Clothing Accessories Stores
448190	Other Clothing Stores
448210	Shoe Stores
448320	Luggage and Leather Goods Stores
487110	Scenic and Sightseeing Transportation, Land
487210	Scenic and Sightseeing Transportation, Water
487990	Scenic and Sightseeing Transportation, Other
561520	Tour Operators
561591	Convention and Visitors Bureaus

NAICS	Industry
713110	Amusement and Theme Parks
713990	All Other Amusement and Recreation Industries
722110	Full-Service Restaurants
722320	Caterers
811211	Consumer Electronics Repair and Maintenance
811420	Reupholstery and Furniture Repair
811490	Other Personal and Household Goods Repair and Maintenance
812990	All Other Personal Services
813211	Grantmaking Foundations
813219	Other Grantmaking and Giving Services
813410	Civic and Social Organizations
813910	Business Associations
813920	Professional Organizations
813930	Labor Unions and Similar Labor Organizations

National Taxonomy of Exempt Entities System (NTEE)

The following NTEE codes are included in the core definition.

Table 17: CORE National Taxonomy of Exempt Entities (NTEE) Codes

NTEE	Description
A01	Alliances & Advocacy
A02	Management & Technical Assistance
A03	Professional Societies & Associations
A05	Research Institutes & Public Policy Analysis
A11	Single Organization Support
A12	Fund Raising & Fund Distribution
A19	Support N.E.C.
A20	Arts & Culture
A23	Cultural & Ethnic Awareness
A25	Arts Education
A26	Arts Councils & Agencies
A30	Media & Communications
A31	Film & Video
A32	Television
A33	Printing & Publishing
A34	Radio
A40	Visual Arts
A50	Museums
A51	Art Museums
A52	Children's Museums
A54	History Museums
A56	Natural History & Natural Science Museums
A57	Science & Technology Museums
A60	Performing Arts
A61	Performing Arts Centers
A62	Dance
A63	Ballet
A65	Theater
A68	Music
A69	Symphony Orchestras
A6A	Opera
A6B	Singing & Choral Groups
A6C	Bands & Ensembles
A6E	Performing Arts Schools
A70	Humanities
A80	Historical Societies & Related Historical Activities
A84	Commemorative Events
A90	Arts Services
A99	Arts, Culture & Humanities N.E.C.
B70	Libraries
C41	Botanical Gardens & Arboreta
D32	Bird Sanctuaries

NTEE	Description
D34	Wildlife Sanctuaries
D50	Zoos & Aquariums
N52	Fairs
Q21	International Cultural Exchange
V31	Black Studies
V32	Womens Studies
V33	Ethnic Studies
V35	International Studies
X80	Religious Media & Communications
X81	Religious Film & Video
X82	Religious Television
X83	Religious Printing & Publishing
X84	Religious Radio

Table 17: RELATED National Taxonomy of Exempt Entities (NTEE) Codes

NTEE	Description
B20	Elementary & Secondary Education
B29	Charter Schools
B30	Vocational & Technical Schools
B50	Graduate & Professional Schools
B60	Adult Education
B82	Scholarships & Student Financial Aid
B83	Student Sororities & Fraternities
B94	Parent & Teacher Groups
E50	Rehabilitative Care
N20	Camps
N50	Recreational Clubs
S41	Chambers of Commerce & Business Leagues
T20	Private Grantmaking Foundations
T22	Private Independent Foundations
T23	Private Operating Foundations
V05	Research Institutes & Public Policy Analysis

Recommended Research Protocols

We further recommend a set of protocols that researchers should follow when extracting data from secondary sources based on the tiered approach we describe above. In our opinion, these constitute a minimum set of requirements for the responsible reporting of creative economy activity. While the set of categories suggested here are based on the production and distribution of cultural goods and services, the principles outlined here would pertain in any application of a creative economy definition:

1) Researchers should always make explicit the categories included in their report of creative economy research. Research findings that are based on secondary data should always be reproducible. This requires that any report list the specific classification system and category codes that it is employing.

2) Researchers should report on the CORE component of the creative economy as a distinct set of findings. This does not limit researchers to only those elements defined within the core, provided they make adaptations according to the principles outlined below. Regardless of how researchers define the boundaries of their work, they should separately report on the core elements as we have defined these above. At a minimum, this will allow the reliable comparison of creative economy research anywhere in the region, which hopefully will extend to the entire U.S. if researchers elsewhere follow these principles.

3) Researchers should develop modifications of the definition related to specific geographies that are limited to the PERIPHERAL group of categories listed below. The categories listed in the peripheral group for each industry classification system contain sub-categories that define enterprises that clearly belong to the creative economy, or cultural economy more narrowly defined. In given geographies, the entire composition or preponderance of the industries within a particular category may belong to the creative economy, but in most geographic areas they will not. Researchers might justifiably extend the local definition by selecting appropriate categories within the peripheral group — provided that they can make a clear case for the unique character of this segment in their study area. When this is done, researchers should provide a clear basis for this decision, and a clear rationale for the percentage of activity that they are claiming to be part of creative economic activity. In reporting the findings of such modifications, researchers should break out this component from the core component.

4) Researchers should never report aggregate data from secondary sources in relation to any of the RELATED group of categories listed below. Because no categorical distinction can be made here, there is no reliable basis for deriving data from secondary sources related to industries within this group. Creative economy researchers should only claim economic activity related to these categories if it is derived from entity-level data sources — that is, information that can be linked directly to a single establishment. For example, in the case of non-profit creative economy activity, data related to single non-profits can be derived from the IRS and NCCS/Guidestar databases, and cultural non-profits within the related categories may be identified and reported on.

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VII. Appendix

Data Sample New England Cultural Workforce vs. Other Creative Employment Definitions, 2000								
CATEGORY	CT	ME	MA	NH	RI	VT	NEW ENG	USA
FCC % of Total Workforce	42.88%	35.02%	43.82%	41.617%	36.89%	38.94%	41.86%	37.87%
FCC Location Quotient	1.132	0.925	1.157	1.099	0.974	1.028	1.105	1.000
FSCC % of Total Workforce	14.81%	11.80%	16.44%	14.66%	13.08%	14.51%	15.13%	12.56%
FSCC Location Quotient	1.180	0.939	1.309	1.168	1.042	1.155	1.204	1.000
CW % of Total Workforce	4.16%	3.65%	4.37%	3.72%	4.51%	4.51%	4.21%	3.60%
CW Location Quotient	1.156	1.015	1.216	1.036	1.254	1.265	1.172	1.000
Core CW% of Total Workforce	3.11%	2.60%	3.30%	2.63%	3.25%	2.92%	3.11%	2.66%
Core CW Location Quotient	1.169	0.978	1.242	0.988	1.221	1.099	1.169	1.000
OCW % of Total Workforce	1.85%	1.68%	1.89%	1.46%	1.79%	1.68%	1.80%	1.52%
OCW Location Quotient	1.216	1.104	1.242	0.957	1.175	1.104	1.185	1.000
NEAA % of Total Workforce	1.67%	1.36%	1.73%	1.22%	1.55%	1.444%	1.61%	1.40%
NEAA Location Quotient	1.190	0.969	1.235	0.872	1.108	1.030	1.147	1.000
Legend: FCC: Florida's Creative Class; FSCC: Florida's Super Creative Core; Core CW: New Core Cultural Workforce; OCW: Old Creative Workforce; NEAA: NEA Artist Occupations.								
Source: U. S. Commerce Department 2000 Census Public Use File.								