Narrow or Broad Definition of Cultural and Creative Industries: Evidence from Tuscany, Italy

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ABSTRACT
The problem of defining the creative sector is crucial. Recent contributions in creative industries have reduced the sectors taken into consideration, increasingly focusing on industries with high creative intensity. Other contributions have widened the set of analyzed creative industries to include the tourism industry, cultural heritage activities, and the experience economy. In particular, this latter definition meets a real and significant need but it also brings to light several still unexplored criticalities. This paper contributes to this debate by carefully considering several consequences that the adoption of either a ‘narrow’ or a ‘broad’ classification of creative industries might have for a heritage-driven region like Tuscany, Italy. The work identifies and maps cultural and creative industries both in Tuscany as a whole and in the art city of Florence and analyzes their evolution, in order to consider the various implications for the different definitions of the ‘creative sector’ that have been adopted.

Keywords: Creative Industries, Mapping, Definition, Tuscany, Florence.
1. INTRODUCTION

Cultural and Creative Industries (CCIs) have become a very appealing sector at the global level because of their interconnections with the new technological trajectories and because they are considered an important source of innovation for emerging from the current crisis (UNCTAD, 2010) and contributing to national wealth (De-Miguel-Molina, Hervas-Oliver, Boix, & De-Miguel-Molina, 2012). Their innovative capacity develops itself at the firm, network, and cluster levels, combining manufacturing, tourism services, and non-profit activities, and using information and communications technology (ICT). CCIs promote the transition to new models of sustainable development based on a green and smart economy, and are becoming an important paradigm for the new European development strategies foreseen by Europe 2020.

However, despite the resonance at the global level and the growing relevance in the literature of the issues related to creative industries and the creative economy (Chuluunbaatar, Ottavia, Luh, & Kung, 2013; Flew & Cunningham, 2010), there is still an open debate on which activities have a sufficient connection to the new paradigm to be considered as part of the ‘creative sector’. A new pattern emerging from the most recent work of the Department of Culture, Media and Sport (DCMS) (2013) provides a more and more widely accepted model. It is based on industries having a high percentage of creative occupations (creative intensity) (Bakhshi, Freeman, & Higgs, 2013).

However, other contributions emphasize connections with other industries and expand the contemporary creative sector to activities relating to crafts (Bertacchini & Borrione, 2013), tourism (e.g. Richard, 2011; Salman, 2010), events, or the experience economy (Power, 2009; Cooke, 2013; Lorentzen, 2013) and digitization of cultural assets (De Laurentis, 2006).

Multiple contributions, then, attempt to emphasize the importance of the creative sector in connection with other industries with low creative intensity and seek to grasp the reality of this rapidly changing phenomenon. However in the attempt to enlarge the classification of creative industries to include heterogeneous activities and industries (De Beukelaer, 2014), a number of critical issues remain.

The purpose of this paper is to contribute to this debate, analyzing some of the possible implications of adopting different classifications of CCIs, particularly for heritage-driven countries and regions. These countries, such as Italy, are characterized by great diversity, not only in the material and immaterial heritage that must be nurtured, but also in the different modalities of enhancing local resources, particularly via various forms of tourism (i.e. cultural and creative tourism).

The case of Tuscany allows us to discuss the implications of using ‘broad’ and ‘narrow’ classifications of the creative sector, considering the activities with both high and low creative intensity. This is particularly relevant in a city like Florence, which has a strong specialization in the tourism industry and in heritage-related activities.

In this work, we use two definitional approaches to CCIs. The first is a ‘narrow’ approach that follows the tradition of the DCMS (2013), enriched by the creative intensive approach (Bakhshi et al., 2013), which includes industries with high creative intensity¹. The second or ‘broad’ definition also considers the recent enlargements developed at the European level (European Commission, 2010) in the creative economy definition, such as tourism, and the experience economy. Through these two approaches, we will investigate concentrations of CCIs at both the regional and urban levels, using the LQ approach, in order to highlight the diversity of our results.

¹ We adopt the approach of the DCMS (2013) as collected data do not allow us to reclassify industries based on ‘creative’ occupations.
The analysis is based on an *ad hoc* database, elaborated from the Active firms database (ASIA) (2009) of the National Institute of Statistics (ISTAT), which collects data on active firms and employees, subdivided by NACE codes down to three digits at the municipal level. This is the most up-to-date data source, since the last Italian Census of Industry and Trade (2011) is not yet available at this level of analysis.

The work is organized as follows. After this introduction, the most recent approaches on CCIs are presented in order to delineate this rapidly-evolving area that continually spawns new and enlarged approaches. Section 3 presents the different classifications of CCIs applied and the methodology used to map CCIs in Tuscany. Sections 4 and 5 present the territorial analysis carried out for Tuscany and for the city of Florence, respectively. The work ends with concluding remarks.

2. DEFINING THE CREATIVE SECTOR: NARROW OR BROAD APPROACH

Culture and creativity are increasingly at the center of an intense international debate. CCIs play a pivotal role and have been acknowledged as a crucial element in culturally-led local development (Sacco & Segre, 2009), the growth of employment (Power, 2011), and the support of innovations and the creation of new firms (Bakhshi, McVittie, & Simmie, 2008; Pratt & Jeffcut, 2009).

Despite their importance for economic development, which is also recognized by supranational organizations and institutions (e.g. European Commission, 2010; UNCTAD, 2010), at the moment the definition of CCIs remains a topic of international debate. Although the notion of creative industries and their many contributions are no longer a fuzzy concept, thanks to the UK DCMS, which has become the standard of international-level comparison (UNESCO, 2013), questions about which industries are to be considered creative or not and which must be included in any analysis remain (Cunningham, 2013; Cunningham & Higgs, 2008; Markusen, Wassall, De Natale, & Cohen, 2008). In this context, Bakhshi et al. (2013) have recently criticized the original DCMS approach (2001), underlining that even if the DCMS’s taxonomy has arguably stood the test of time well enough and has become a *de facto* world standard, it does not fully capture the reality: it excludes industries with the same features as the great majority of those it includes, and includes others that do not share these general features. These authors recommend selecting creative industries using the DCMS approach as a starting point, then adopting five criteria to classify creative occupations. On the basis of this classification, the ‘creative intensity’ of an industry is calculated. The DCMS (2013) itself has taken a new approach along the same lines, focusing on the idea of ‘creative intensity’ and using the proportion of people doing creative jobs within each industry to suggest which industries should be included.

Recent contributions (Boix, Capone, De Propris, Lazereretti, & Sanchez, 2014; Lazzeretti, 2013) striving to develop a European-level benchmark use the DCMS’s CCI classifications, but conclude that they are more applicable to northern European countries and more technology-driven, while stressing the necessity to develop a new classification of CCIs for southern European countries that pays more attention to cultural heritage. Other contributions have also considered craft activities (Bertacchini & Borrione, 2013; Lee & Drever, 2013) that are typically excluded by many researchers. Garnham (2005) argues that the inclusion of the software sector overestimates the weight of creative industries, while cultural economics scholars like Hesmondhalgh (2007) question the exclusion of cultural heritage and tourism and entertainment.

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2 The main ISIC codes with less than 20% of creative occupations that are included in the original DCMS classification are, for example: 59.13 Motion picture, video and television programme distribution activities (19%), 59.14 Motion picture projection activities (13%), 62.01 Computer programming activities (11%), 47.79 Retail sale of secondhand goods in stores (6%) (Bakhshi et al., 2013, p. 11).

3 The criteria are: 1) the novelty of the process; 2) its suitability for a mechanization process; 3) its non-repetitiveness or non-uniform function; 4) its creative contribution to the value chain; 5) interpretation, not mere transformation.
Recently, the European Commission (2010) in its Green Paper has reintroduced a distinction between creative and cultural industries, reverting to the sectorial definitions typical of Cultural Economics and blending them with those of the creative economy, including tourism, the experience economy, and other activities. In addition to traditional cultural and creative activities, it also considers a more peripheral level, in which several other sectors that rely on content production are interdependent with CCIs, specifically cultural tourism and new technologies (European Commission, 2010). The European Commission’s aim is to attach more importance to the recent phenomenon of creative tourism, and to its connections with culture, creativity, and the increasing trend of the event and experience economy.

This approach is not only limited to the Green Paper. There is a growing interest in the literature that connects CCIs with tourism and economic development (Richards, 2011; 2012; Tafeli-Via, Via, Terk, & Lassur, 2014). This approach comprises not only tourism, but also all the creative activities centered on the experience of consumers and visitors (Salman, 2010). To these can be also added the arts (museums, historical sites, gardens) and all creative activities that depend on customer involvement. This outlook has been identified as overlapping with other cultural and creative sectors, leading some to consider fashion, design, and enogastronomy as just some examples of products that can be lived through consumption or visitor experiences (Santagata, 2009).

In addition, there is evidence showing that creative industries tend to cluster in certain places and benefit from ‘agglomeration’ and ‘urbanization’ economies (Lorenzen & Frederiksen, 2008), thus producing ‘creative’ atmosphere and spillovers (Lazzeretti, 2009; Santagata & Bertacchini, 2011). This holds true when the adopted classification of creative industries is coherent, while if the definition is too broad these externalities are far from guaranteed and should be verified.

There are then other approaches that seek to enlarge the DCMS taxonomy of the creative sector and broaden this perspective to other industries such as tourism or heritage-related activities (Sepe & Trapani, 2010; Yang, 2009). In this research stream, De Propris, Almenar, and Boix (2013) analyzes the experience economy and creative industries in the UK, including tourism and the event economy, while Hong, Yu, Guo, and Zhao (2014) also investigate the event economy and natural and cultural heritage activity in China. Recently, tourism studies have increasingly included creative economy themes and explored case studies and the interconnections between the cultural and creative sectors and visitors; for example in the case of East London (Pappalepore, Maitland, & Smith, 2014), distressed neighborhoods with arts-based communities (Aquino, Phillips, & Sung, 2012), and in small- to medium-sized cities (Den Dekker & Tabbers, 2012). Russo and Quagliari (2012) speak of ‘post bohemian’ districts which have facilitated the penetration of tourists into artistic areas such as creative Barcelona.

In light of these contributions, interest in creative industries and other related fields traditionally linked with cultural industries is increasing. Several concerns arise from the inclusion of heterogeneous activities in the creative sector, especially the admission of those with low creative intensity. This problem also appears in cultural heritage-based territories, such as Tuscany, where it is difficult to identify a coherent set of activities and even risky, in our opinion, to consider industries with different characteristics and evolutionary trends under the same umbrella.

Given the foregoing discussion, what are the implications of the definition of the creative sector? This issue has recently received greater policy interest given the sector’s perceived ability to

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4 If the proportion of people doing creative jobs in a particular industry is substantial, above a 30% threshold, the industries are candidates for inclusion within the Creative Industries classification (DCMS, 2013).

5 We refer to artisan activities such as glass and ceramics makers, decorators, furniture makers, woodworkers, pattern and mold makers, musical instrument makers and tuners, metal-smiths, precious stone workers, floral arrangers, and florists.

6 For instance the effects of agglomeration economies in the tourism industry have not been sufficiently demonstrated (Boix & Capone, 2006).
help cope with the economic crisis and in its impact on the wider economy (Bakhshi et al., 2008; UNCTAD, 2010). Currently the growing body of research on creative places has identified a geography of diverse and heterogeneous creativity, yet sometimes overestimates or underestimates the phenomenon. It is therefore crucial to adopt shared and comparable standards to promote appropriate policies in support of culture and creativity, coherent with the characteristics of different regions and recognizing their diversity. This work contributes to this debate by making clear how the different definitions of the CCIs (narrow or broad) can lead to different interpretations of the phenomenon.

3. METHODOLOGY

3.1. The Definition of Cultural and Creative Industries: CCIs, Heritage, and Tourism

Following the recent trend arisen in the literature supporting a creative intensity approach, we apply the DCMS (2013) perspective to take into account the ‘core activities’ of the cultural and creative sector. This is what we call the ‘narrow approach’, an approach based on traditional CCIs.

This new revision focuses on the idea of ‘creative intensity’ and uses the proportion of people doing creative jobs within each industry to indicate which industries should be included. The broad industry groups that are considered by DCMS (2013) as creative are the followings: Advertising, Architecture, Arts and entertainment activities, Computer programming activities, Design activities, Motion and video, Photographic activities, Programming and broadcasting activities, Publishing, Sound recording and music. This revision is an updated version of the original 2001 DCMS approach, which was one of the most applied approaches in international benchmarking (e.g. Boix et al., 2014; Power, 2011). Further, the new classification of DCMS (2013), being very recent, has been applied only to Australia (CIIC, 2013).

Table 1 (column 2) summarizes the CCIs selected for analysis and converted into NACE Rev. 2 economic activities at the three digit level, which is at present the deepest level of data availability (at the municipality level) for Tuscany.

Using the DCMS classification as a base, additional activities have been included in order to take into consideration the recommendations of the Green Paper and the perspective of considering other activities such as tourism or heritage-related activities. This is what we call the ‘broad’ approach. Therefore, two more categories of economic activities were incorporated: activities associated with heritage and with tourism (Table 1, column 3). These two activities are not included in the DCMS classification and can be considered low creative intensity industries.

For the heritage sector, it seems worthwhile to recall that in Italy it is composed primarily of public sector and non-profit organizations, while in other European countries the same area is usually home to private organizations. This means that the study of the Italian case is not entirely comparable to those of other countries where the cultural sector is largely private.

NACE codes selected for the analysis at the three digit level are summarized in Table 1 (column 3). In addition to the ‘narrow’ approach (Table 1, column 2), tourism activities as traditionally defined (hotels, restaurants and travel agencies) were inserted, together with the non-profit sectors of entertainment, libraries, and museums (Table 1, column 3).

As noted above, the data source for the Tuscan case is the ISTAT ASIA 2009 database, which was consulted in 2012-13. The ASIA database collects the information from all the Italian Chambers of Commerce and includes all the firms active in Italy in 2009. Data on CCIs in 2001 refers to the Census of Industry and Trade (ISTAT, 2001).

At the moment data of the 2011 Census of Industry and Trade are not available at this level of analysis.

Bakhshi et al. (2013) measure a low level of creative intensity for Library and archive activities (23%), for Museum activities (22%) and Tour operator activities (22%). In our opinion, Hotels and restaurants might as well be regarded as low creative intensity industries since only managers and chefs’ occupations are to be considered creative occupations.
Table 1. Creative Industries: The ‘narrow approach’ and the ‘broad approach’

<table>
<thead>
<tr>
<th></th>
<th>The Narrow Approach*</th>
<th>The Broad Approach**</th>
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<tbody>
<tr>
<td><strong>ADVERTISING</strong></td>
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<td></td>
<td>73.1 Advertising</td>
<td>73.1 Advertising</td>
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<tr>
<td><strong>ARCHITECTURE AND ENGINEERING</strong></td>
<td>71.1 Architectural and engineering activities</td>
<td>71.1 Architectural and engineering activities</td>
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<td><strong>ARTS AND ENTERTAINMENT</strong></td>
<td>90.0 Arts and entertainment activities</td>
<td>90.0 Arts and entertainment activities</td>
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<tr>
<td><strong>COMPUTER PROGRAMMING</strong></td>
<td>74.2 Photographic activities</td>
<td>74.2 Photographic activities</td>
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<td><strong>DESIGN ACTIVITIES</strong></td>
<td>74.10 Specialized design activities</td>
<td>74.10 Specialized design activities</td>
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<tr>
<td><strong>MOTION PICTURE, VIDEO AND TV</strong></td>
<td>59.1 Motion picture, video and television programme activities</td>
<td>59.1 Motion picture, video and television programme activities</td>
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<tr>
<td><strong>PHOTOGRAPHY</strong></td>
<td>62.0 Computer programming, consultancy and related activities</td>
<td>62.0 Computer programming, consultancy and related activities</td>
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<td><strong>PROGRAMMING AND BROADCASTING ACTIVITIES TV AND RADIO</strong></td>
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<td></td>
<td>60.1 Radio broadcasting</td>
<td>60.1 Radio broadcasting</td>
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<td></td>
<td>60.2 Television programming and broadcasting activities</td>
<td>60.2 Television programming and broadcasting activities</td>
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<tr>
<td><strong>PUBLISHING</strong></td>
<td>58.1 Publishing of books, periodicals and other publishing activities</td>
<td>58.1 Publishing of books, periodicals and other publishing activities</td>
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<td>58.2 Software publishing</td>
<td>58.2 Software publishing</td>
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<td><strong>SOUND RECORDING AND MUSIC</strong></td>
<td>59.2 Sound recording &amp; music publishing activities</td>
<td>59.2 Sound recording &amp; music publishing activities</td>
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<td><strong>TOURISM – HOTEL, RESTAURANTS, TRAVEL AGENCIES</strong></td>
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<td></td>
<td>55.1-3 Hotels and similar accommodations (including short-stay accommodations and camping)</td>
<td>55.1-3 Hotels and similar accommodations (including short-stay accommodations and camping)</td>
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<td></td>
<td>56.1 Restaurants and mobile food service activities</td>
<td>56.1 Restaurants and mobile food service activities</td>
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<td>79.1 Travel agency and tour operator activities</td>
<td>79.1 Travel agency and tour operator activities</td>
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<tr>
<td><strong>HERITAGE-RELATED ACTIVITIES</strong></td>
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<td></td>
<td>91.01 Library and archives activities</td>
<td>91.01 Library and archives activities</td>
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<td>91.02 Museums activities</td>
<td>91.02 Museums activities</td>
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<td></td>
<td>91.03 Operation of historical sites and buildings and similar visitor attractions</td>
<td>91.03 Operation of historical sites and buildings and similar visitor attractions</td>
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<td>91.04 Botanical and zoological gardens and nature reserves activities</td>
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Source: * Authors’ elaboration from DCMS (2013)
**Authors’ elaboration from DCMS (2013) and the EC Green Paper (2010)

The analysis, conducted at the NACE three digit level, results in some constraints on the definitions, but data are available only at the three digit level at the municipal level. The most important problem is Architecture, which is considered together with Engineering. We think this analysis is particularly important because it highlights the evolution of CCIs and their relevance at regional and urban levels in the last decade (2001-2009), with particular reference to the different classifications adopted.

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The analysis of 2001 data on employment in Florence shows that Architecture accounts for 1,671 employees while Engineering accounts for 671 employees. In a city of art like Florence, it is not surprising that the employees in Architecture constituted the majority for the macro-economic activity. This analysis is not possible for 2011 as data below the three digit level are not available at the municipal level.
3.2. The Mapping of Cultural and Creative Industries

According to the spatial concentration perspective (i.e. industrial districts and clusters approach) (Branzanti, 2014), we apply the methodology of location quotients in order to identify CCI concentrations in Tuscany. This will allow us also to investigate the concentration of CCIs in Tuscany according to the two different classifications (narrow and broad).

The location quotient is constructed using the classical structure to assess whether there is a higher concentration of CCIs in a municipality than the national average:

\[
LQ_i = \frac{E_{is}}{E_i} / \frac{E_i}{E}
\]  (1)

where \(E_{is}\) is the number of employees in municipality \(s\) specialized in CCIs; \(E_i\) is the number of employees in municipality \(i\); \(E_s\) is the number of employees in Italy specialized in CCIs; and \(E\) is the total number mount of employees in Italy. An LQ above one indicates that the municipality is more specialized in CCIs than the national average.

The main advantages of the LQ are simplicity, transparency, and the data requirements and for these reasons it has been the most widely applied approach for identifying clusters of creative industries. It does have disadvantages. For example, since it does not take into account the absolute size of the local industry (high LQs could be associated with a small number of employees and vice versa), it may be necessary to use a minimum threshold value. Boix et al. (2014) add an additional control to correct for explosive and relative effects in small places: a minimum of 500 employees in the industry (roughly equivalent to a large firm, according to the EUROSTAT definition) is required to consider the LQ economically significant. Other limitations are the distribution of industries by size, the typical definition of a cut-off value different from 1 (usually 1.1 or 1.2), and the limited information incorporated in the LQ.

Lazzeretti et al. (2008) propose alternative methods for investigating the concentrations of CCIs in a territory. For example, the LQ can also be computed by taking absolute deviations from the mean or by parameterizing the quotient to a normal function, which allows for the application of statistical levels of significance (as in O’Donoghue & Gleave, 2004) in order to solve the cut-off problem.

More recently, Collis, Freebody & Flew (2011) present the advantages and limits of the use of LQ in mapping CCIs by proposing the use of a ‘density sensitive index’, using land area as a measure of size or urbanization to adjust the index. They explain that the main problems of the LQ approach is that it inhibits ‘seeing’ the outer suburban geographies of CCIs, thus favoring those locations with larger workforces, an issue also noted by De Propris, MacNeill, Chapain, Cooke, and Garcia (2009). The use of LQ is therefore arguable for analysis at the national level, but our study focuses on the regional level and the LQ results still appear reasonably coherent\(^\text{10}\) (Figure 1). In any case, most studies confirm that the LQ remains the dominant approach for investigating concentrations of creative industries (Trippl, Tödtling, & Schuldner, 2013).

Following the analysis of Collis et al., (2011) we have performed a sensitivity analysis, analysing the fit of an LQ Reference Line (LQRL) with a scatterplot of total employment and creative industries employment data in Tuscany. The LQRL shows a good fit for our study. Note that in Figure 1 the axes are both in log scale. Moreover without the threshold value in our study, the small places are overestimated and the metropolitan centres are not over-counted. This could be due to the fact that the only large urban centre in the Region of Tuscany is the city of Florence.

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4. THE GEOGRAPHY OF THE CREATIVE ‘SECTOR’ IN TUSCANY

4.1. Cultural and Creative Industries in Tuscany: A General Background

First of all, a narrow definition is applied to the analysis of CCIs. The level of employment in Tuscan CCIs amounts to more than 60,000 employees at around 32,000 firms in 2009 (Table 2). From 2001 to 2009, employment grew at a pace of more than 10%, and in these firms at almost double that rate. At an absolute level, an increase around 5,800 units, both in terms of employees and firms, is reported. CCIs in the regional economy accounted for 5.3% of employment and 9.1% of firms.

We now turn to evaluating CCIs according to the ‘broad’ approach. When CCIs are considered together with tourism and heritage-related activities, the number of employees doubles, reaching over 130,000 at more than 50,000 firms. The sectors included appear to have a crucial effect on the regional economy, comprising 11% of employees and 14% of firms in the region.

Considering tourism separately from the other sectors and limited to the selected NACE codes, Tuscany boasts over 68,000 employees and about 17,600 firms, corresponding to 6% and 5% of the local economy, respectively. It is worth underlining that very few activities are included under the Tourism rubric, which simply refers to hotels, restaurants and cafes, travel agencies, and tour operators.

It is then interesting to analyze the employment dynamics of different sub-sectors of CCIs at the regional level\textsuperscript{11}. The CCIs that register the greatest growth are those of Design, which more than doubles in the period, although in absolute numbers its growth is modest, and Software, which registers the highest increase in absolute terms (16%). Architecture & Engineering remain relatively stable (-2%). Advertising and Publishing experience the largest decline, 26% and 23%, respectively. Tourism decreases 5.5% in the period when limited to the activities taken into account, mainly in Hotel occupations.

4.2. Mapping Cultural and Creative Industries in Tuscany

We now proceed with the analysis of LQs at the intra-regional level in Tuscany in 2009. Figure 2 presents the resulting maps for applying different CCI definitions. LQ comparisons are also summarized in Table 3.

Figure 2a presents CCI concentrations in Tuscany, analyzed by the narrow definition. Creative municipalities are mainly localized in the north-central part of the region, with several highly revealing agglomerations. The first macro-area is of course centered on Florence, which also includes the municipalities of Prato and the area of Empoli, and extends itself up into the municipalities neighboring Bologna. Separated from this area are the municipalities in the Valdarno area, all characterized by the presence of significant local productive systems. The other creative macro-area is the one centered on Pisa and Lucca.

| Table 2. Evolution of CCIs in Tuscany according to different definitions (2001-2009) |
|---------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|
|                                 | Narrow definition             | Broad Definition               | Tourism and Heritage         |
|                                 | CCIs 2009 | % on total Tuscany | CCIs 2001 | Abs. growth 2001-09 | % growth 2001-09 | CCIs | % on total Tuscany | Tourism and Heritage | % on total Tuscany |
| Employees                       | 61,365     | 5.3%               | 55,534     | 5,831             | 10.5%              | 128,534     | 11.0%             | 67,169               | 5.8%               |
| Firms                           | 32,511     | 9.1%               | 26,696     | 5,815             | 21.8%              | 50,106      | 14.0%             | 17,595               | 4.9%               |

Source: Authors’ elaborations

\textsuperscript{11} Due to the change in the classification of ATECO economic activities in 2007 it is not possible to directly compare the data from 2001 to 2009 at the regional level. The percentages shown are the results of a first bridging table between the 2001 Census data and 2009 ASIA data. An example of this evolution is shown in the case of Design that in the 2002 classification was at the 5 digit level, while in 2007 it becomes an activity at the 1 digit level.
and the surrounding municipalities, where many high-tech industries are concentrated. A final area of compactness is represented by Siena and its neighboring municipalities. Florence has a 1.6 index of concentration, which means a degree of concentration 1.6 times higher than the regional average. Pisa has an index of 1.7, whereas Lucca and Siena both show a concentration index of 1.2.

These results are similar to those obtained in previous analyses at the national level, where CCIs are concentrated in urban areas (Unioncamere, 2014): all the main metropolitan areas of Tuscany are in fact represented. But here, small cities also emerge, as we used the municipality as the territorial unit of analysis. For example, the small town of Monteriggioni near Florence and Fiesole shows an important concentration of CCIs. Small towns are just outside large urban centers where professionals and freelancers usually locate. The list includes also other small towns near the main urban centers where CCIs are notably concentrated, due to lower rental expenses and mobility advantages, as the nearby large centers are easily reachable for work activities.

Figure 2b illustrates the indexes of concentration calculated for CCIs according to the broad approach. Figure 2c shows the concentration in Tuscany of the tourism industry alone, thus identifying the region’s local tourism systems.

Figure 2b maps the creative and cultural municipalities plus those specialized in tourism for Tuscany. In addition to the municipalities noted above (Figure 2a), the southern part of Tuscany is added, which proves to be specialized mainly in the tourism industry. In particular, we find the tourist areas of the Maremma coast and Versilia. The areas of Volterra and San Gimignano, Siena, and Chianti appear in the center of the region, and further south the areas of Montalcino and Pienza.

If we analyze the concentration indexes of this broad approach (Table 3), the municipalities that prevail are the tourist ones: the Island of Elba, which presents the highest values (between 3.5 and 5), followed by Maremma (3.5), Versilia (2.7), and Chianti (2.7). The only two municipalities in the first positions in the narrow approach as well are Fiesole, Monteriggioni, Florence, and Pisa.

These places are mostly small destinations, widely recognized as tourist destinations (if less so then Florence and Pisa). If we consider only Figure 2c, where tourist destinations alone are represented, tourism emerges as the most relevant sector. Here the LQ results are higher, con-

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12 This is also explained by the fact that these municipalities are included in the travel-to-work areas of Florence and Siena, respectively. This issue offers also evidence that using the municipality as territorial unit of analysis can deliver different and more nuanced results than larger units of analysis.
firming a very high concentration of tourist firms in the territory reaching 8.6 on Elba and coming in between 5 and 6 for the other world-renowned Tuscan destinations.

In sum, Figure 2a shows exclusively the CCIs through a narrow approach, Figure 2c illustrates only the tourist municipalities, while Figure 2b includes both traditional creative industries with the heritage sector and tourism added, using the broad approach.

The narrow approach of the DCMS (2013) permits a focus on the region’s metropolitan centers (Figure 2a), while the broad approach seems at first glance to also take into account small places and not just metropolises. Deeper analysis shows, however, that these small places are predominantly specialized in tourism activities and not in CCIs (compare the second and third column of Table 3). This result is particularly evident in high tourism vocation regions like Tuscany, when ‘narrow’ creative industries are kept in the background, especially in metropolitan centers. Combining the sectors in this broad approach, tourism specializations appear to prevail over the creative sectors in Tuscany as a whole.

5. AN URBAN LEVEL ANALYSIS: THE CASE OF THE METROPOLITAN CITY OF FLORENCE

After having pointed out the centrality of Florence for Tuscan CCIs, the purpose of this section is to investigate the Tuscan city, describing the evolution of CCIs in the Florentine territory, from both the narrow and broad approaches. What happens with the two approaches at the urban level? We see how Florence emerges, according to the different approaches.

We begin by investigating CCIs with the narrow approach and study their evolution over the last decade (2001-2009). First, not only is Florence confirmed to be a creative city, but the weight of CCIs is increasing in the overall local economy, shifting from about 7% in 2001 to over 8.6% in 2009. If we also consider the activities belonging to the broad approach, this share reaches the critical value of 16% (from the 13% of 2001).

Looking at only the narrow approach, the most important sectors at the municipal level are: Software with almost 20% of total employees in CCIs; Architecture & Engineering with almost 17%; Publishing with around 6.5%; Entertainment

<table>
<thead>
<tr>
<th>Rank</th>
<th>Narrow approach</th>
<th>Broad approach</th>
<th>Tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Municipality</td>
<td>LQ</td>
<td>Municipality</td>
</tr>
<tr>
<td>1</td>
<td>Monteriggioni</td>
<td>2.28</td>
<td>Capoliveri</td>
</tr>
<tr>
<td>2</td>
<td>Fiesole</td>
<td>1.76</td>
<td>Campo nell’Elba</td>
</tr>
<tr>
<td>3</td>
<td>Pisa</td>
<td>1.70</td>
<td>Castiglione della Pescaia</td>
</tr>
<tr>
<td>4</td>
<td>Firenze</td>
<td>1.63</td>
<td>Chianciano Terme</td>
</tr>
<tr>
<td>5</td>
<td>San Giuliano Terme</td>
<td>1.53</td>
<td>Manciano</td>
</tr>
<tr>
<td>6</td>
<td>Cascina</td>
<td>1.48</td>
<td>Forte dei Marmi</td>
</tr>
<tr>
<td>7</td>
<td>Bagno a Ripoli</td>
<td>1.48</td>
<td>Montecatini-Terme</td>
</tr>
<tr>
<td>8</td>
<td>Lucca</td>
<td>1.28</td>
<td>Fiesole</td>
</tr>
<tr>
<td>9</td>
<td>Siena</td>
<td>1.26</td>
<td>Portoferroia</td>
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<td>10</td>
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<td>Castagneto Carducci</td>
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<td>11</td>
<td>Sesto Fiorentino</td>
<td>1.19</td>
<td>San Gimignano</td>
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<td>Orbetello</td>
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<td>Calenzano</td>
<td>1.07</td>
<td>Firenze</td>
</tr>
<tr>
<td>15</td>
<td>Fagine Valdarno</td>
<td>1.06</td>
<td>Pisa</td>
</tr>
</tbody>
</table>

Source: The authors’ elaborations
with about 3.7%; and Design with 2.8%. Again at the municipal level, Software comprises 3% of total employment, Architecture & Engineering about 2.7%, and Publishing 1% (Figure 3).

If we take into account the broad approach, which includes heritage and tourism activities, the results show a much-changed pattern. The heritage sector has a marginal role, accounting for less than 1% of employment in CCIs, while tourism ranks as the main sector, boasting more than 47% of the CCI employment. It is worth recalling that we adopted a narrow definition of the sector with no accounting of satellite activities. Tourism has more than 2,150 firms and it employs almost 12,000 in the hotel, restaurant, and café sector alone (or over 7% of total employment in the municipality).

We now consider the evolution of CCIs from 2001 to 2009 (Figure 4). Creative employees of CCIs in the narrow approach shift from around 24,100 to more than 24,800, for a modest rise of 3%, notwithstanding the zero economic growth of the municipality in the period. As illustrated in Figure 4, Publishing, Advertising, and Architecture & Engineering have been declining sectors over the few past years, as they experienced a significant fall in the number of employees, with a decrease of almost 40% for Advertising, more than 20% for Publishing, and more than 5% for Architecture & Engineering. On the other hand, the fastest-growing sectors over the same time period are: Design, with an increase of 20%\(^{13}\) (although the absolute figures are not remarkable); Tourism, with more than 13%; and Photography, with almost 10%. Following these is the Software sector, with a 7% growth.

To conclude, the case of Florence shows that also at the urban level, with the ‘broad’ approach to CCIs, there is a predominance of tourism, notwithstanding the fact that the city is acknowledged, not merely in Italy but even internationally, as a creative city.

From this point of view, traditional cultural activities are not the fastest growing industries. Instead, new creative industries such as software, strongly linked to the digitization of Florence’s cultural heritage (Carrozzino & Bergamasco, 2010), are growing the most rapidly.

Figure 3. Percentage of employment in CCIs, heritage and tourism Florence, 2001-09
Source: Authors’ elaboration on ISTAT (2001 and 2009)

\(^{13}\) Data on Design in 2009 are not directly comparable with 2001 data due to the change in the classification of economic activities in 2007 (See also note 12). The growth percentage of Design is then underestimated as only the 2001 code 74.87.5 has been considered here, that is the only activity included in the 2007 74.1.
Tourism is also a growing sector, while private heritage-related activities do not have a significant weight. From this point of view, it is even more important to analyze the creative industries with a focus on high creative intensity (such as software, design, or photography), because these are precisely the sectors that have developed the most in recent years, as the case of Florence underlines. This also highlights how the digitization of works of art at the Uffizi (Uffizi Touch™) helped stimulate both the software creative industries and tourism (Cappellini, Barni, Corsini, De Rosa, & Piva, 2003; Centrica, 2013).

6. CONCLUSIONS

The aim of this paper is to contribute to the debate on defining the creative sector by considering some important consequences of the adoption of either a ‘narrow’ or a ‘broad’ definition of the creative industries. The work shows how using different classifications can lead to differing representations of what is supposedly a single phenomenon, particularly in a tourist region like Tuscany and an artistic city like Florence.

The narrow approach was defined according to the recent contribution of the DCMS, which considers the creative intensity of various economic activities, focusing on a small and coherent set of creative industries. The broad approach considers the tourism industry and heritage-related activities, two sectors increasingly taken into consideration in studies of creative industries and extremely relevant to Tuscany and Florence.

As a first approximation, the results show that the broad approach keeps creative industries in the background while making the tourism industry appear dominant, overshadowing the effective relevance of creative industries in Tuscany. Using the narrow approach, such distortion does not occur. In fact, focusing on core CCIs, the real contribution of the creative sectors to the economic development of heritage-driven regions and cities is brought to light, especially for the metropolitan areas traditionally seen as the most creative. This feature is plainly visible through the narrow approach, which allows to clearly identify the creative industries as the most dynamic and growing, even with the crisis.

Figure 4. Employment growth of CCIs, heritage and tourism in Florence, 2001-2009
Source: Authors’ elaboration on ISTAT (2001 and 2009)
Conversely, with the broad approach, the tourism sector prevails in both metropolitan and rural areas, leaving behind the possibility of appreciating the peculiarities of the creative industries.

In the narrow approach, CCIs employed 5.3% of the regional workforce and comprised 9% of its firms. Unlike what might be expected in an artistic city like Florence, the industries with the best performance are those related to new technologies as opposed to cultural heritage, such as software, design, and photography. However, this result has to be considered with caution, as only the private employment of heritage-related activities was considered, not the public sector.

In the territorial analysis, the importance of the tourism industry under the broad approach leads to an underestimation of the concentrations of creative industries by drawing attention mainly to the region's tourist destinations. It thus overestimates the tourist localities, which demonstrate higher rates of concentration than the identified creative clusters of the region. This aspect is also strengthened because the concentrations of creative industries are of recent development, whereas Tuscany has been a highly-advanced region for tourism, especially cultural tourism, for decades.

The overall results of our analysis point out that it is essential in the future to focus on a standard, homogenous, and consistent classification of creative industries in order to avoid over- or underestimating the phenomena under study. In this context the narrow approach, focusing on high creative intensity industries that generate new products and services, but excluding activities related to the enhancement of the artistic and cultural heritage (cultural tourism and heritage-related activities), appears to be a better standard that provides more representative results of the reality in our case study.

Finally, as to the possible implications of the adoption of a narrow versus a broad definition, it is worth underlining the relevance taken on by strategic relationships, in this case, between cultural and creative industries, tourism sectors, and firms applied to the digitalization of cultural heritage.

The traditional boundaries between the tourism and the cultural sectors have become porous, following the diffusion of the new technologies and their growing impact on the demand for cultural and tourism products. The transversality of ICT, as well as the establishment of the experience economy not only in tourism but also in the cultural and the Made in Italy sectors, generates manifold interrelations and overlaps in this area. Clear examples come from the experience museums, the wine and food events taking place in art places, or the expositions in fashion shops. However, to develop efficacious policies that combine all these different activities, it is useful, if not necessary, to start from the identification of an accurate geography of creativity. The latter should in fact take into account the different characteristics of places as identified by the various approaches (cities or regions, clusters or districts), and the creative intensity of the professions involved, as well as the possible strategic factors accompanying the implementable policies.

There must be a fundamental clarity that distinguishes the core activities of the different sectors, which can make it possible to combine them in a useful way and develop incisive development and enhancement policies. The need to integrate the heterogeneity of the sectors involved leads to the adoption of multitasking and multilevel policies and strategies, based on rather complex platform models (e.g. those related to smart specialization). In this context, we therefore believe that it is entirely appropriate to reaffirm the importance of the definitional issue: the correct
identification of the ‘nature’ of creativity that should be implemented, and its relevance even from a strategic standpoint.

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