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Italian cultural and creative industries following the Great Recession: an exploration of the local determinants of growth

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ABSTRACT

The cultural and creative industries (CCIs) have variously been seen as a stimulus for urban and regional development. They were also one of the few sectors in the UK and European Union countries to weather the storm of the 2008 Great Recession. Starting from the curiosity aroused by these premises, and given the paucity of studies on Italian CCIs, we analyse the growth trend of the sector following the economic shock of the Great Recession to ascertain whether this trend also held for Italy. We use data from the Aida-Bureau van Dijk database on more than 181,000 enterprises for the period 2010–18. Information on the number of employees from the cultural and creative enterprises is collected for 18 NACE Rev. 2 sectors, with the aim of disentangling the contribution of each subsector to the growth of the industry. While information is available at the firm level, we use NUTS-3-level information. Using a system generalised method of moments (GMM-SYS) approach, and controlling for some socio-economic characteristics, we examine the determinants of the growth of CCIs in the post-shock period, ultimately contributing to the underexplored debate on the resilience of the sector in Italy and accounting for its macro-regional and peripherality effects.

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cultural and creative industries; resilience; Great Recession; Italy; dynamic panel

1. INTRODUCTION

The cultural and creative industries (CCIs) have been subject to increased policy and academic attention in the last 20 years (EC, 2022; Gutierrez-Posada et al., 2023). This has been reflected in and prompted by a series of policy shifts in financial and discursive support for CCIs around the world. The sector has variously been seen as a flagbearer for the future of Industry 4.0 and the digital economy, a stimulus for urban regeneration, a driver of economic growth (Faggian et al., 2017), a fix for spatial unevenness (Chapain & Comunian, 2010) and a catalyst in addressing inequality, exclusion and marginalisation. Moreover, these discourses, coupled with that on the resilience of the cultural and creative economy, have recently gained new momentum in light of the devastating effects of the COVID-19 pandemic on the sector and the consequent major

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investments predicted within the Recovery and Resilience Facility (RRF). In fact, as outlined by the Recovery and Resilience Scoreboard thematic analysis on the CCIs of the European Commission,[1] 16 of 22 member states have included in their recovery and resilience plans a range of investments to support the resilience of CCIs and drive their green and digital transition (with Italy being the second country by share of expenditure allocated to the policy area relating to the cultural sector[2]). This is even more interesting if we consider that in the UK and other European countries, the cultural economy was one of the few sectors to weather the storm of the 2008 Great Recession (Pratt, 2017).

However, there is a paucity of research on the reaction of Italian CCIs to this major recessionary disturbance. Starting from the curiosity aroused by the above premises, we analyse the resilience of the sector in the face of the economic and financial shock of the Great Recession in order to ascertain whether the record was similar for Italy and if there were spatial patterns in the reaction to the disturbance. The resulting evidence may be enlightening in view of the recent CCI disruptions brought on by the COVID-19 pandemic. Assessing whether the sector showed some peculiar patterns of resilience to the 2008 global economic and financial crisis may help us explain the geography of the resistance of the sector in the coming years. If, in fact, in some areas, the sector had already been seriously weakened by the previous shock, this may have compromised its ability to recover from the distress caused by COVID-19. Considering this, we investigate the resilience of CCIs over a nine-year timespan following the Great Recession. Furthermore, aware of the widespread 'urban bias' affecting academic research and policy design in this field (Bennett et al., 2015; Collis et al., 2013; Gibson, 2010; Lysgård, 2016; Mayes, 2010; Rantisi et al., 2006; Sorensen, 2009) – which has hitherto produced a very partial, often misguided picture – we also account for the dimension of peripherality, as defined in the Italian National Strategy for Inner Areas (SNAI).[3]

Based on the findings of the existing literature on CCIs and the remaining gaps, this study seeks to answer the following research questions:

- How have CCI employees been distributed across Italian provinces after the Great Recession (2010)?
- Has their distribution changed over time (2010–18)?
- Which local determinants affect the number of CCI employees at the provincial level (panel analysis)?
- Do these determinants differ across the CCI subgroups, namely heritage, arts, media and functional creations (i.e., based on the United Nations Conference on Trade and Development (UNCTAD) classification)?

To answer these questions, we used a unique data set of 103 Italian provinces for the period 2010–18, compiled with information from the Aida Bureau van Dijk database.

The remainder of the paper is structured as follows. Section 2 reviews the relevant literature. Section 3 describes the data and variables used in the analysis and the econometric approach. Section 4 discusses the main results. Section 5 concludes.

2. STATE-OF-THE-ART LITERATURE ON THE RESILIENCE OF CCIs

The contribution of CCIs has been recognised as an important pathway to economic development. According to the *Creative Economy Outlook 2022* (UNCTAD, 2022), the creative economy is now one of the world's fastest-growing sectors. Research in geography and regional studies has made significant contributions to the knowledge in this field, notably with respect to the clustering and embedding of CCIs (Lorenzen, 2018; Pratt, 2012; Scott, 1999). More recently, exciting new aspects have been explored, enriching the extant literature through, for instance, a global networks and connectivity perspective (Hassink & Yang, 2021). Going

beyond the initial prevailing focus on agglomerations and the advantages of geographical proximity, this stream of research acknowledges the multi-scalarity of CCIs and the relevance of transnational corporations, local buzz and global pipelines, international co-production and global niche markets to this sector (Hassink & Yang, 2021; Lorenzen & Mudambi, 2013). A third dimension should be considered: national regulations.

Thus, creative industries lie 'at the intersections between these three forces: local agglomeration, global networks, and national regulations' (Hassink & Yang, 2021, p. 217). In addition to the two local and global dimensions, the role of the intermediate level of countries in shaping the geography and growth of CCIs has been overlooked, including in terms of their resilience to economic shocks due to national policies geared towards sectoral recovery. Interestingly, in the context of the cultural economy of the UK and other European countries, Pratt (2017) observed that CCIs were one of the few economic sectors to weather the storm of the global recession. He also pointed to an apparent paradox: 'culture has been the high-profile victim of funding cuts in the period of austerity; at the same time, culture has prospered'; he further wondered, 'Is culture then the "poster child for resilience"' (p. 1)? Nevertheless, the resilience of the overall sector and its determinants have either remained under-researched (Lazzeretti & Cooke, 2017) or are characterised by contradictory evidence (Rozentale, 2014). This is particularly true in the case of Italy. Surprisingly, few (especially quantitative) studies have investigated the reaction of Italian CCIs to the above-identified global recessionary disturbance. Furthermore, the sector seems to have followed the same trajectory as that of the UK and other European countries.

During the period 2007–10, the value added of CCIs grew by +3%, while the total increase was +0.3%. In the same years, employment in the sector grew by +0.9% against a decline in total employment of −2.1% (Fondazione Symbola, 2011). The relevance of the industry remains evident today: In 2021, CCIs represented 5.6% of Italy's gross domestic product (GDP) (Fondazione Symbola, 2022). Considering the paucity of studies investigating the resilience of the sector to the Great Recession, some analyses have described the geography of CCIs, which may be useful as an evidence-based starting point to examine post-recessionary spatial trends. Lazzeretti et al. (2008) analysed the geographic distribution of the creative industries in Italy and Spain by focusing on traditional cultural industries and technology-related creative industries (information and communication technologies and software). They found that despite a general trend of clusterisation in big cities in Italy, CCIs were more diffused across the country compared to Spain. This was confirmed in a subsequent comparative study (Lazzeretti et al., 2012), which showed that urbanisation had a significant impact on the clustering of CCIs in Spain and a less important effect in Italy, although they were more concentrated in metropolitan centres (see also Lazzeretti et al., 2016). These findings make the investigation of the peripherality dimension of CCIs in Italy particularly intriguing. The work by Bertacchini and Borrione (2013) on the structure and geography of the Italian creative economy using employment and firm data unveiled diverging spatial patterns of production systems, with craft-based production clustering in small, non-metropolitan centres. Building on this study, Crociata et al. (2022) conducted a multi-step analysis and highlighted that beyond the well-known agglomerating tendency of CCIs in large urban centres, especially in the North and Centre (hence, along traditional patterns, that is, the North–South divide and the Third Italy), specialised peripheral local labour systems (LLS) in core industries were more evenly distributed across the country. Also, while creative industries have more clearly followed the expected trend of agglomeration in more densely populated LLS in Northern and Central Italy, the geography of the specialisation of cultural industries in peripheral areas has reversed the historical dichotomy, with a higher concentration in Southern Italy. Investigating the spillover effects of CCIs and their role in firm performance, Cicerone et al. (2021) showed that CCIs need to reach a certain level of critical mass to generate positive spillovers in the local economy: Above a certain threshold, the presence of workers employed in CCIs is positively related to regional specialised

diversification. These results are consistent with those of the study of Lazzeretti et al. (2017), which indicated that the lack of impact of CCIs on the overall economy is probably due to the dimension of the sectors considered. Burlina et al. (2022) deployed the economic complexity index (ECI) and detected an effect, though weak, of the economic complexity of CCIs, irrespective of the type of sector, on CCI firm performance. This did not hold for the economic complexity of the rest of the economy. Quite surprisingly, apart from these contributions on different aspects relating to the cultural and creative economy, very few studies have specifically dealt with the issue of CCI resilience in the face of economic shocks. Nevertheless, Lazzeretti et al. (2017) reassessed the view held by some that CCIs could play a strong role in the growth of the wider economy, even acting as a panacea for ending the economic crisis.

Sedita et al. (2017) touched on the creative economy in their work on economic resilience. They analysed Italy at the LLS level for the period 2009–13 and focused on the role of related/unrelated variety and differentiated knowledge bases in regional resilience. This latter aspect was measured as the growth of the employment rate following the Great Recession (2008). Their results confirmed the importance of related variety and differentiated knowledge bases for resilience capacity following the crisis. More interestingly for the purposes of our study, they showed that a moderate concentration in symbolic knowledge-based economic (i.e., cultural/creative) activities contributed to resilience. This finding supports the assumption that 'core resources for the sustainability of Italian economies have to be found not, or not predominantly, in technology-intensive fields, but in more creativity-intensive fields, whose outputs may become inputs for renewing more traditional manufacturing activities' (Sedita et al., 2017, p. 173).

By the same token, while Bellandi and Santini (2017) did not focus directly on CCIs, instead reflecting on the resilience of Italy's mature industrial districts (IDs), they engaged in a theoretical discussion of the role that place-based arts and culture-based activities might have in mitigating either localist fragmentation or centrifugal and disruptive tendencies in mature IDs, thereby preventing their inertia or decline. They concluded that when IDs face endogenous or exogenous shocks that require non-gradual changes, the cultural background may foster, under certain conditions, their resilience or recovery from lock-in.

The present study seeks to make a significant, evidence-based contribution by looking at a substantial post-shock period. We aim to fill the gap regarding the impact of the Great Recession on the CCI sector by producing evidence-based knowledge that could contribute to the theoretical literature on the factors underlying the resilience of the sector to recessionary disturbances and, furthermore, inform policy guidance in the strategic orientation of the new investments in the sector predicted by the RRF. More specifically, the original contribution of this paper is threefold. First, to the best of our knowledge, it is the first study to empirically analyse the resilience of the CCIs in Italy by using data at the firm level provided by the Aida-Bureau van Dijk database. Second, the richness of this database allowed us to analyse a larger period (10 years after the 2008 crisis) and specific subsectors in the complex definition of CCIs. Third, focusing on Italy, we propose a scalable analysis that can easily be replicated by using the most extended version of the Aida database, namely the Orbis-Bureau Van Dijk, which includes information for all firms across the globe.

3. DATA AND EMPIRICAL MODEL

Italian CCIs were analysed by using employee data from the Aida-Bureau van Dijk database for the period 2010–18. This database provides financial information on approximately one million Italian firms.[4] The data are organised at the firm level, but for the purpose of this analysis, they were aggregated at the sectoral and provincial levels.

The CCI concept includes various sectors. In this paper, we employ the UNCTAD classification, which is widely used in both policy-making and academic research. It is the most interesting for the purpose of our study, since we can fully operationalise it through our data. It classifies the CCI macro sector into four broad groups: heritage, arts, media and functional creations. These groups are then divided into nine subgroups (Figure 1). To consistently collect data on each UNCTAD subgroup, 18 NACE[5] sectors are identified (i.e., 15 NACE-2 and three NACE-3) and classified into four groups in a second step (Table 1). For a more detailed description of the sectoral and subsectoral composition, see Table A1 in the supplemental data online).

The analysis focuses on data at the provincial level (103 provinces) due, in part, to the availability of the other variables included in the empirical model.[6] Based on the Aida data for the period under analysis, the number of CCI employees grew by an average of six percent annually, with some sectors growing above this average (i.e., cultural sites, arts, audiovisual, television, leather and leather products, architectural scientific research and advertisement; see Table A2 in the supplemental data online). The distribution of these variables changed over time. More precisely, only Milan and Rome maintained their dominant position, while some provinces performed better or worse than in the initial year of observation. Moreover, some provinces (e.g., Naples) entered the top 10 ranking in more recent years (see Table A3 online). As shown in the maps (Figure 2), no single spatial pattern identifying the CCI sector in Italy was clearly detectable. However, somewhat surprisingly, we observed that in the last year, the number of employees increased particularly in Southern provinces. The distribution of the four groups shows that heritage was mostly concentrated in the North, while art, media and especially functional creations were more spread out across the country.

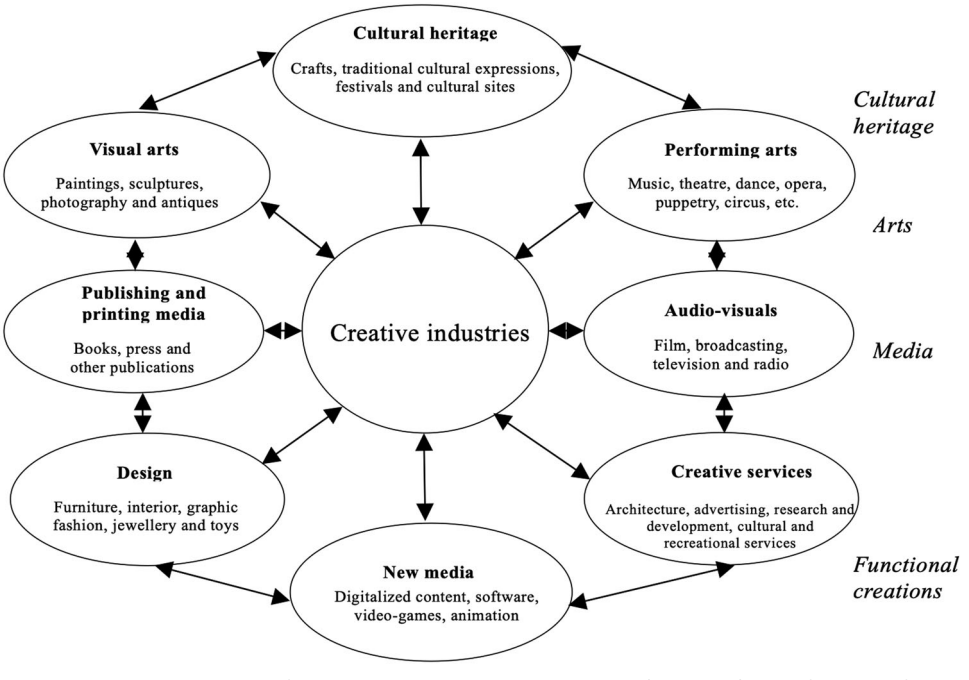

Figure 1. United Nations Conference on Trade and Development (UNCTAD) classification of creative industries.
Source: UNCTAD (2008).

Table 1. Cultural and creative industries: selected sectors.

NACE code	Definition	Enterprises, 2018	Employees, 2018
Heritage			
16	Wooden and cork objects	8,809	42,735
91	Cultural sites	1,161	10,334
Arts			
74	Other scientific and professional activities	31,015	47,192
90	Creative, arts and entertainment activities	6,994	24,817
Media			
58	Published and printed media	9,193	30,236
59	Audiovisuals	8,082	24,776
60	Television	2,023	22,846
Functional creations			
13	Textile industries	8,283	85,228
14	Clothing	15,775	96,998
15	Leather and leather products	10,874	94,401
26	Computers and electronic products	8,679	100,939
31	Furniture	12,076	79,960
321	Jewellery	3,087	15,521
322	Musical instruments	150	794
324	Toys	564	2,311
71	Architecture	25,309	75,419
72	Scientific research	7,328	21,273
73	Advertisement	21,904	73,698
Total		181,306	849,478

Source: Authors' own elaboration of data from the Aida-Bureau van Dijk database.

3.1. General model

To empirically estimate the determinants affecting the performance of CCIs, the number of employees of the ith province (for $i = 1, 2, \ldots, 103$) at time t (for $t = 1, 2, \ldots, 9$) can be formally expressed as follows:

$$CCI\ TOTAL_{it} = f\ (E_{it},\ D_{it},\ G_i,\ T_{it},\ A_{it},\ Dis_{it}) \tag{1}$$

where *CCI TOTAL* is the total number of CCI employees explained by economic variables (E), demographic variables (D), geographic characteristics (G), tourism-related variables (T) and amenities (A)/disamenities (Dis).

The number of CCI employees is assumed to increase in E and D because provinces with high income and population levels are expected to be associated with higher productivity. The G variables are supposed to show the converse relation because of Italy's historical North/South economic dualism. The rural/urban divide is also controlled for, although the effect might not be trivial. The tourism-related variables (T) are assumed to affect CCI employment in two main ways: (1) via the 'additional' demand generated by visitors, which increases the total demand at the local level, and (2) via the development of tourism supply, which might create a displacement in the market. For these reasons, T is expected to be positive when tourism promotes the local economy and negative when the negative externalities that tourism development produces prevail. Finally, the number of CCI employees should be increasing in the area of amenities or (A, e.g., the presence of an airport or university) and decreasing for disamenities (Dis, e.g., crime).

Table 2. Description of variables.

Variable	Description	Source	Years
Dependent variables			
CCI TOTAL	Total number of CCI employees	Aida BvD	2010–18
HERIT	Number of employees in heritage	Aida BvD	2010–18
ARTS	Number of employees in arts	Aida BvD	2010–18
MEDIA	Number of employees in media	Aida BvD	2010–18
FUNCT	Number of employees in functional creation	Aida BvD	2010–18
Economic variables			
GDP_PPS	Real GDP per capita	Eurostat	2010–18
GROWTH	Real GDP per capita growth	Authors' elaboration	2010–18
Demographic variables			
DENS	Population density	Authors' elaboration	2010–18
ITA_YOUNG	Italian population aged 18–34	Istat	2010–18
ITA_MEDIUM	Italian population aged 35–49	Istat	2010–18
FOR_YOUNG	Foreign population aged 18–34	Istat	2010–18
FOR_MEDIUM	Foreign population aged 35–49	Istat	2010–18
Geographical variables			
D_SOUTH	Dummy South: a value of 1 is assigned to provinces located in a region in Southern Italy, 0 otherwise	Istat	t.i.
D_ISLANDS	Dummy Islands: a value of 1 is assigned to provinces located in one of the two islands (Sardinia or Sicily), 0 otherwise	Istat	t.i.
INNER	Percentage of municipalities classified as 'inner areas' over the total number of municipalities in the province	SNAI	t.i.
Tourism variables			
TOU_DEMAND	Total nights of stay	Istat	2010–18
TOU_SUPPLY	Ratio between n. of hotels and surface	Authors' elaboration	2010–18
Amenities and disamenities			
D_AIRPORT	Dummy airport: a value of 1 is assigned if there is an airport in the province, 0 otherwise	Authors' elaboration	t.i.
D_UNIV	Dummy university – a value of 1 is assigned if there is a public or private university in the province, 0 otherwise	MIUR (Ministry of Education, University and Research)	t.i.
PICK	Number of pickpocketing incidents per inhabitant	Istat	2010–18

Note: t.i., Time invariant.
Source: Authors' own elaboration.

3.2. Methodology

This work focused on the drivers of CCI employment by using a balanced panel of data on Italian provinces. The methodological strategy to find the most appropriate estimator followed three main stages.[7] First, we checked whether there was persistent CCI employment. In other words, it is essential to explore whether the total number of employees ($CCI\ TOTAL_{i,t}$) correlates with past levels ($CCI\ TOTAL_{i,t-1}$). Therefore, it is important to analyse the static model in order to control for serial correlation in the idiosyncratic error term (Biagi et al., 2015). Thus, the Wooldridge test (Wooldridge, 2002) for serial correlation was performed after regressing between, random and fixed panel ordinary least squares. This test confirmed the presence of serial correlation in the residuals.

Table 3. Descriptive statistics of the selected variables.

Variables	Observation	Mean	SD	Minimum	Maximum
CCI TOTAL	927	8,124.19	17,836.68	93.00	180,486.00
Heritage	927	564.33	798.534	0.00	12,606.00
Arts	927	654.97	1,680.03	0.00	16,806.00
Media	927	772.42	3,823.90	0.00	34,577.00
Functional creations	927	6,132.46	12,786.11	34.00	134,110.00
GDP_PPS	927	25,734.95	7,084.52	14,200.00	55,000.00
GROWTH	824	0.02	0.06	–0.34	0.60
DENS	927	251.83	336.09	30.07	2,652.58
ITA_YOUNG	927	96,370.25	117,693.40	14,585.00	1,554,197.00
ITA_MEDIUM	927	121,393.70	137,271.40	16,464.00	922,008.00
FOR_YOUNG	927	13,762.45	19,963.91	558	166,666
FOR_MEDIUM	927	13,810.78	22,371.80	509.00	195,573.00
D_SOUTH	927	0.22	0.42	0.00	1.00
D_ISLANDS	927	0.13	0.33	0.00	1.00
INNER	927	0.52	0.26	0.00	0.97
TOU_DEMAND	927	3,794,611.00	5,821,705.00	64,938.00	37,042,454.00
TOU_SUPPLY	927	0.14	0.27	0.01	2.63
D_AIRPORT	927	0.26	0.44	0.00	1.00
D_UNIV	927	0.54	0.50	0.00	1.00
PICK	927	169.20	178.39	8.48	1,072.20

Source: Authors' own elaboration.

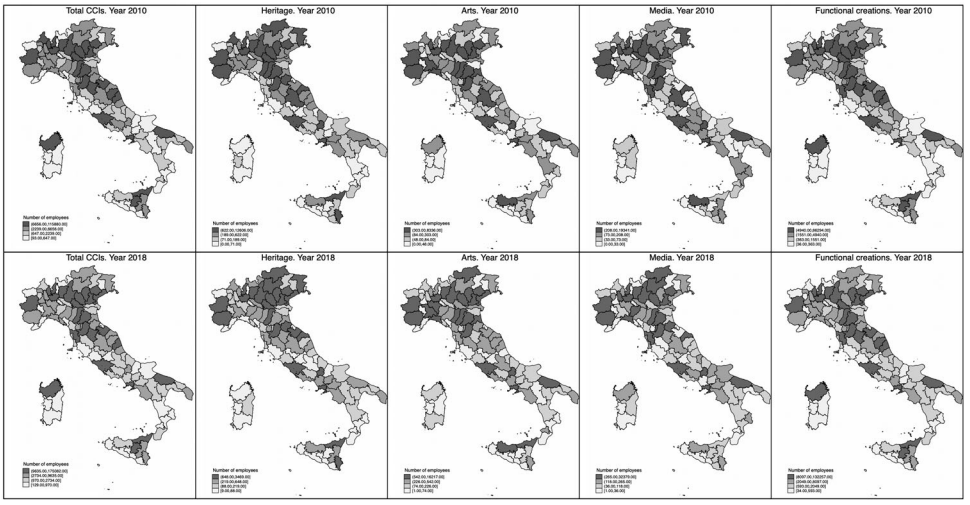

Figure 2. Maps of provincial distribution of employees in cultural and creative industries, 2010 and 2018.
Source: Authors' own elaboration on data from the Aida-Bureau van Dijk database.

Second, we tested whether CCI employment was stationary ($\alpha > 1$) or whether it had unit roots ($\alpha = 1$). Three tests among the most used in the literature were performed to check the stationarity of the dependent variable (Choi, 2001; Harris & Tzavalis, 1999; Im et al., 2003). The results found the stationarity of the CCI employment series for the period analysed.[8] Previous results have suggested the use of GMM, which is considered the most efficient and unbiased estimator for such cases (Baum, 2006; Roodman, 2009). As outlined by Biagi et al. (2015), in dynamic models, when the process is stationary and the independent variables are not strictly exogenous, GMM allows economic models to be specified, avoiding unnecessary assumptions, such as a particular errors distribution (Greene, 2007). Moreover, when endogeneity is suspected, the GMM is suitable for estimation.

Finally, between the two types of GMM – the difference and system forms (GMM-DIFF or GMM-SYS) – we chose the GMM-SYS, which was appropriate for our analysis. As time-invariant dummies were included in our empirical specification, the system version of the GMM had to be used. Moreover, as suggested by Roodman (2009), the GMM-SYS was chosen for cases with small panel data sets when (1) 'the number of observations was greater than the time periods ($n > t$); (2) the functional relationship was linear; (3) the model was dynamic; and (4) the independent variables were not strictly exogenous. In addition, for small samples, Blundell et al. (2000) suggested using the one-step GMM-SYS, as the two-step procedure is asymptotically more efficient (i.e., it is more efficient for large samples). In the one-step estimate, the model consists of a system of equations (as many as in the t under analysis). In each equation, the endogenous variables in level are instrumented using lags of their first difference' (Biagi et al., 2015, p. 513).

Specifically, in our empirical application, the number of observations ($n = 103$) was higher than in the time period ($t = 9$); the dynamic among the dependent and independent variables was assumed to be linear; the independent variables (all except the dummies) were expected to correlate with their past and the error; and time-invariant dummies needed to be included in the model. Given these factors, the GMM-SYS was the chosen form. Therefore, the lag of the dependent variable among the explanatories ($CCI\ TOTAL_{i,t-1}$) was added to equation (2). As mentioned above, after estimating the baseline model, four additional models were

estimated by using the following as dependent variables: heritage, arts, media and functional creations. This step allowed us to understand whether there were changes in the determinants among the four selected subcategories.

3.3. Empirical model

This study proposes a panel data approach to investigate the determinants of CCI employment in 103 Italian provinces over the period 2010–18. The empirical model is as follows:

$$\begin{aligned} CCI\ TOTAL_{it} = {} & \beta_0 + \beta_1 GDP\_PPS_{it} + \beta_2 GROWTH_{it} + \beta_3 DENS_{it} + \beta_4\ \text{ITA\_YOUNG}_{it} \\ & + \beta_5\ \text{ITA\_MEDIUM}_{it} + \beta_6\ \text{FOR\_YOUNG}_{it} + \beta_7\ \text{FOR\_MEDIUM}_{it} + \beta_8\ D\_SOUTH_i \\ & + \beta_9\ D\_ISLANDS_i + \beta_{10}\ INNER_i + \beta_{11}\ TOU\_DEMAND_{it} + \beta_{12}\ TOU\_SUPPLY_{it} \\ & + \beta_{13}\ D\_AIRPORT_{it} + \beta_{14}\ D\_UNIV_{it} + \beta_{15}\ PICK_{it} + \beta_{16}\ YEAR_t + \eta_i + \varepsilon_{it} \end{aligned} \tag{2}$$

The dependent variable was the number of CCI employees as the sum of the selected NACE sectors. The same model was also estimated by using the dependent variable of the number of employees in the four groups identified by the UNCTAD classification: heritage (model 3), arts (model 4), media (model 5) and functional creations (model 6). *GDP_PPS* and *GROWTH* were used as economic variables, that is, the level and rate of growth of GDP per capita in purchasing power standard (PPS), respectively. Among the demographic variables, *DENS* was the population per square kilometre and included a consideration of agglomeration effects; *ITA_YOUNG* and *ITA_MEDIUM* were Italian residents aged 18–34 and 35–49, respectively. The same held for *FOR_YOUNG* and *FOR_MEDIUM* but for foreign residents. These variables were included to check whether diversity was a significant predictor of CCI employment.

In terms of geographical characteristics, *D_SOUTH*, *D_ISLANDS* and *INNER* were considered. The first two dummies controlled for provinces located in Southern or island regions; the last variable checked whether the presence of a higher percentage of municipalities in a province, classified as 'inner areas' by the SNAI, had a positive or negative effect on CCIs.

Tourism was analysed from both the demand and supply sides, since the two effects can be different. *TOU_DEMAND* was the total number of nights of stay in the official tourism accommodation system (domestic and international component); *TOU_SUPPLY* was the total number of hotels divided by the surface area of the province. If, in the first case, the expected effect was positive because international and domestic tourists led to increases in the demand for goods and services in a province, in the second case, the effect could be negative. Indeed, tourism studies have reported that this can also have a negative impact on other economic sectors when, for example, it competes for the use of capital and other factors of production – a displacement effect known as 'crowding out' (Candela & Figini, 2012).

Finally, some dummies were included to control for the presence of amenities/disamenities. *D_AIRPORT* measured whether there was at least one airport in the province, while *D_UNIV* indicated whether at least one public or private university was located in the province. The variable PICK accounted for the number of pickpocketing incidents per inhabitant and was meant to proxy a local disamenity. Intuitively, the first variables could have a positive effect on CCIs (Florida, 2002), while disamenities could negatively affect the sector.

All variables are expressed in log-level terms; for example, the coefficients can be interpreted as elasticities. Finally, η_ii and ε_{it} were the province's fixed effect value and the error term, respectively; we assumed that $E(\eta_i) = 0$, $E(\eta_{i,\,it}) = 0$, $E(\varepsilon_i) = 0$. A detailed description of the variables employed in the analysis and descriptive statistics are provided in Tables 2 and 3.

Table 4. GMM-SYS results (dependent variable: *CCI Total*).

Models	**(1)**	**(2)**
VARIABLE	***CCI TOTAL***	***CCI TOTAL***
$CCI\ TOTAL_{i,t-1}$	0.91***	0.91***
	(0.029)	(0.030)
GDP_PPS	0.26***	0.32***
	(0.088)	(0.11)
GROWTH	−0.36**	−0.40**
	(0.14)	(0.16)
DENS	0.11***	0.13***
	(0.032)	(0.041)
ITA_YOUNG	0.18	0.19
	(0.12)	(0.12)
FOR_YOUNG	−0.24**	−0.26**
	(0.11)	(0.11)
ITA_MEDIUM	−0.18	−0.19
	(0.14)	(0.15)
FOR_MEDIUM	0.23**	0.24**
	(0.11)	(0.12)
D_SOUTH	−0.0034	0.0035
	(0.045)	(0.048)
D_ISLANDS	−0.17***	−0.16***
	(0.062)	(0.061)
INNER		0.010
		(0.022)
TOU_DEMAND	0.046**	0.047**
	(0.021)	(0.022)
TOU_SUPPLY	−0.088***	−0.091***
	(0.028)	(0.030)
D_AIRPORT	0.0028	0.012
	(0.035)	(0.039)
D_UNIV	0.030	0.033
	(0.026)	(0.028)
PICK	−0.0026	−0.0027
	(0.021)	(0.021)
Constant	−3.34***	−3.93***
	(0.97)	(1.12)
Observations	823	807
Provinces	103	101
Arellano–Bond (AR1)[a]	0.003	0.003
Arellano–Bond (AR1)[b]	0.383	0.379
Sargan test[c]	0.000	0.000
Hansen test[c]	1.000	1.000

Note: All regressions include time dummies. [a]Arellano–Bond (1991) statistic test under the null hypothesis of no first-order correlation in the residuals. [b]Arellano–Bond (1991) statistic test under the null hypothesis of no second-order correlation in the residuals. [c]Sargan (1958) and Hansen (1982) statistic tests under the null hypothesis of the joint validity of the instruments. Robust standard errors are shown in parentheses. *, ** and *** Significance at the 10%, 5% and 1% levels, respectively.
Source: Authors' own elaboration.

Table 5. GMM-SYS results (dependent variable: heritage, arts, media, functional creations).

Models Variables	(3) Heritage	(4) Arts	(5) Media	(6) Functional creations
$Heritage_{i,t-1}$	0.91***			
	(0.036)			
$Arts_{i,t-1}$		0.70***		
		(0.058)		
$Media_{i,t-1}$			0.72***	
			(0.057)	
$Functional\ creations_{i,t-1}$				0.95***
				(0.017)
GDP_PPS	0.29**	0.64**	0.53***	0.15
	(0.12)	(0.25)	(0.20)	(0.10)
GROWTH	−0.30	−0.79***	−0.60*	−0.22
	(0.19)	(0.28)	(0.31)	(0.15)
DENS	0.068	0.065	0.047	0.093**
	(0.059)	(0.096)	(0.081)	(0.041)
ITA_YOUNG	0.23*	0.21	0.26	0.16
	(0.12)	(0.21)	(0.19)	(0.11)
FOR_YOUNG	−0.078	−0.15	−0.011	−0.27**
	(0.15)	(0.21)	(0.22)	(0.11)
ITA_MEDIUM	−0.15	0.15	−0.099	−0.19
	(0.16)	(0.27)	(0.21)	(0.13)
FOR_MEDIUM	0.0067	0.16	0.15	0.27**
	(0.15)	(0.24)	(0.24)	(0.12)
D_SOUTH	−0.14**	−0.012	0.20	0.032
	(0.055)	(0.10)	(0.13)	(0.049)
D_ISLANDS	−0.21***	−0.18	0.023	−0.086*
	(0.074)	(0.14)	(0.16)	(0.047)
INNER	0.031	0.023	−0.021	−0.0090
	(0.023)	(0.053)	(0.059)	(0.024)
TOU_DEMAND	0.037	0.031	0.064	0.032
	(0.033)	(0.058)	(0.052)	(0.020)
TOU_SUPPLY	−0.036	−0.030	−0.12*	−0.068**
	(0.044)	(0.077)	(0.072)	(0.030)
D_AIRPORT	0.050	−0.15*	0.053	−0.0035
	(0.048)	(0.092)	(0.089)	(0.035)
D_UNIV	0.064*	−0.067	−0.056	0.027
	(0.037)	(0.068)	(0.080)	(0.029)
PICK	−0.050	0.023	0.050	0.012
	(0.033)	(0.051)	(0.046)	(0.022)
Constant	−3.21**	−10.0***	−8.62***	−1.85*
	(1.29)	(3.09)	(2.69)	(1.08)
Observations	806	806	806	807
Provinces	101	101	101	101
Arellano–Bond (AR1)[a]	0.000	0.000	0.001	0.002
Arellano–Bond (AR1)[b]	0.503	0.742	0.407	0.177
Sargan test[c]	0.000	0.000	0.000	0.000

(*Continued*)

Table 5. Continued.

Models Variables	(3) Heritage	(4) Arts	(5) Media	(6) Functional creations
Hansen test[c]	1.000	1.000	1.000	1.000

Note: All regressions include time dummies; [a]Arellano–Bond (1991) statistic test under the null hypothesis of no first-order correlation in the residuals. [b]Arellano–Bond (1991) statistic test under the null hypothesis of no second-order correlation in the residuals. [c]Sargan (1958) and Hansen (1982) statistic tests under the null hypothesis of the joint validity of the instruments. Robust standard errors are shown in parentheses. *, ** and *** Significance at the 10%, 5% and 1% levels, respectively.
Source: Authors' own elaboration.

4. RESULTS AND DISCUSSION

The results of the estimations are reported in Tables 4 and 5. Column 1 in Table 4 presents the results of the GMM-SYS estimation for all Italian provinces. In column 2, the control for inner areas was added and, as a consequence, two provinces were omitted from the estimations. Indeed, following the SNAI approach, Milan and Trento did not present municipalities classified as 'inner areas'; thus, they were not included in the model (2). Importantly, however, the coefficients and signs of the explanatory variables did not change but remained consistent when the *INNER* control was included. The results, including this variable, are reported in Table 5, and the diagnostic tests are also reported in Tables 4 and 5. The Hansen test (1982) under the null hypothesis of the joint validity of the instruments did not reject H_0. Nevertheless, the p-value of 1 was quite implausible, which could be due to the number of T rather than a symptom of instrument proliferation. In addition, the Arellano–Bond (1991) test indicated that the residuals were not serially correlated.

Starting from the selected economic variables, both GDP per capita (*GDP_PPS*) and GDP per capita growth (*GROWTH*) were significant. More specifically, GDP had a positive impact on the levels of employment in the cultural and creative sector: the higher the GDP, the higher the number of employees. GDP growth, which is a proxy for overall growth (here, this includes resilience), for the local economy was negative. This means that a reduction in GDP growth led to an increase in the total number of CCI employees. This is a notable result because it shows that a general contraction in the growth/wealth of the local economic system did not seem to impact CCI employment, thereby suggesting that the sector likely resisted the shock.

Looking at how and the extent to which the demographic composition affected the resilience of the CCI sector, we observe that population density was positive and significant, in line with part of the theoretical and empirical literature on the importance of urbanisation for the cultural and creative economy. Therefore, interpreting this outcome from the perspective of the present study, the CCI sector was more likely to resist the economic recession in more densely populated areas, contradicting previous findings related to total employment (Sedita et al., 2017). Sedita et al. found a negative relation with density, showing that 'regions characterised by urbanisation economies are less able to face an external shock in Italy' (p. 170). Our outcome is coupled with and strengthened by the result of model (2), where the variable accounting for the within-province degree of peripherality was included (*INNER*) and showed no effect on employment levels. *FOR_YOUNG* and *FOR_MEDIUM* had opposite but weak effects; nevertheless, it is worth commenting on them. Higher shares of the young adult foreign population (i.e., aged 18–34 years old) negatively impacted the number of CCI employees. This may be due to the fact that this age range was one where young people, especially in the sector under scrutiny, struggled to (permanently) enter the job market, which may have presented further complications for foreigners. Conversely, a higher presence of a more mature foreign

population (i.e., aged 35–49 years old) was positively associated with a higher number of employees in the sector. This corroborates the importance of cultural diversity in creating an environment for the cultural and creative economy to thrive, including in Italy.

In exploring the effect of geography on the resilience of CCIs in Italy, we saw that the percentage of municipalities identified as 'inner areas' (following the SNAI classification) over the total number of municipalities in the province did not explain the level of employment in the cultural and creative sector. On the contrary, among the other geographical variables included in the model, insularity strongly and negatively affected the employment level. Being a province located on one of the two islands in the country seemed to reduce the resilience of CCIs. Contrary to common assumptions, the relationship between CCI growth and insularity was not so predictable. In fact, the concept of clusters has rarely been examined outside of the importance of large urban centres. Rudge (2021) invited reflection on how the emerging digital–creative sectors can drive developing economies into insular contexts. This call, however, also references further research on advanced economies and how digital dynamics and the transformation of the creative industries are driven by the emergence of digital platforms and digital consumers (Hassink & Yang, 2021).

The findings on tourism are very insightful. High tourism demand was positively though weakly associated with an increase in total CCI employment. Thus, the presence of tourism in the locality seemed to boost the sector and foster its resilience during the recessionary period. Nevertheless, an expansion of the tourism supply had the opposite – very strong – effect on total CCI employment, substantiating the above argument: This result implies that a strong specialisation in tourism-related services can be seen as negative for the performance of other sectors, including CCIs. These results demonstrate that the relationship between tourism and culture, and more specifically between tourism and CCIs, is not straightforward and warrants further investigation. In fact, the Organisation for Economic Co-operation and Development (OECD) (2014) has noted that this link remains underdeveloped and that awareness of the potential for growth and innovation generated by the convergence of tourism and creative industries remains limited. Another relevant point in this respect is that 'this emerging relationship between tourism and the creative industries differs from the relationship between culture and tourism' (p. 20).

None of the variables accounting for the presence/absence of amenities and disamenities seemed to play a role in explaining the resilience of the labour market in the sectors considered.

The main factors explaining total CCI employment following the Great Recession are common in the scientific literature on resilience as a proxy for the ability of a locality to resist disturbance arising from a recessionary shock; it is interesting to understand whether the same determinants played the same role across the subsectors comprising CCIs. Policy-wise, this information would be salient in designing economic post-recovery strategies that, along with being place-sensitive, could be sector-specific and, thus, more precisely target the challenges of each subsector.

The level of GDP per capita was positive and more or less significant across all subsectors (with the strongest effect on the media sector) except functional creations. This is not surprising if we look at the activities falling into this category (see Table A1 in the supplemental data online): In fact, many of them are manufacture-related, and manufacture has frequently been found to be severely affected by the 2008 economic and financial crisis. The result regarding GDP growth is equally informative. This is strongly and negatively associated with the total number of employees in the arts sector, suggesting that if GDP decreases (i.e., in a local economy suffering from recessionary disturbance), the labour market connected to the art sector weathers the storm. The same three demographic variables, which explained previous outcomes on the performance of total employment in the whole CCI sector, were significant only for functional creations in the disaggregated analysis, thereby showing that the previous result

was mainly driven by this subsector. We see that geography seemed to matter for the resilience of the heritage sector. More specifically, being a province in Italy's macro-region of the South and the Islands negatively affected the level of employment in this key area resource. It is important to underline this because this might have produced or will produce in the near future geographically uneven economic shock impacts and internally and externally recognised as one of the most important assets of the country. This may further widen the existing North–South disparities, especially in light of the recent outbreak of the global health crisis, significantly impacting the CCI sector because of containment measures.

We consider that the heritage subsector was probably the most significantly affected by these restrictions (i.e., closure of museums, libraries and cultural institutions and stoppage of cultural activities) and that, as our findings suggest, this was already weakened by the previous economic shock in the South and the Islands. The combined effect of these two events might be pervasive. Thus, once data become available, further studies addressing the considerable post-shock period would be compelling. Regarding the role of tourism, the demand-side variable lost its effect in the disaggregated model: the presence of visitors did not impact the level of employment in any CCI sector. Conversely, a higher specialisation in the sector was associated with lower employee numbers in functional creations, which, as indicated earlier, were the more manufacture-related activities. This finding suggests that the greater impact of the recessionary disturbance on manufacturing may have been amplified by the general crowding-out effect produced by tourism in the local economic system. Finally, the lagged variable of the dependent variable was positive and significant in each model. This means that the number of employees depends on past levels.

5. CONCLUSIONS

Various researchers have tended to look for culture and creativity in fairly obvious places (i.e., big cities), they have found it there and they have theorised about CCIs 'as if their subsequent models or logic were universally relevant everywhere' (Gibson, 2010, p. 3). From a policymaking perspective, an often-uncritical adoption/emulation (Atkinson & Easthope, 2009; Evans, 2003) of such assumed universal models has guided policies aimed at increasing urban competitiveness or reinvention through culture/creativity-led development strategies (Grodach, 2013). Comparatively far less academic and policy reflection has been undertaken outside of core areas. Furthermore, the academic and policy reflection on the local effect of cultural and creative activities has been frequently dominated by a taken-for-granted assumption (Degen & García, 2012): they are seen as a panacea locking declining places out of a stagnating path or helping them recovering from an economic disturbance.

In attempting to contribute towards filling this theoretical and empirical (especially in the case of Italy) knowledge gaps, we analysed the local determinants of employment in Italian CCIs after the 2008 Great Recession by examining the influence of macro-regional patterns and peripherality. We found a positive relationship between the level of total CCI employment after the shock – our proxy for the resilience of the sector – and GDP per capita. Interestingly, a decrease in GDP did not negatively affect total CCI employment, likely meaning that the sector resisted the impact of the recessionary disturbance over the period under scrutiny.

This result must be read against the backdrop of the recent debate about the resilience of the sector. According to the OECD (2014, p. 42) 'evidence regarding the resilience of the creative industries is mixed'. Some countries have experienced an expansion of the sector, despite the economic crisis, but not in all subsectors or locations. For this reason, looking at local determinants of CCI growth and splitting the sector into subsectors was even more crucial in terms of better informing policies for the cultural and creative economy.

Our study points to three additional local determinants of the level of total employment in the cultural and creative economy in the post-crisis period: density – widely acknowledged in the

literature as a testament of the role of agglomeration and urbanisation in the sector; the high share of the foreign population – which is consistent with the idea that cultural diversity is important in creating the environment for CCIs to flourish – and a high tourism demand, which is linked with the heritage subsector, especially in the cultural tourism segment. Conversely, a negative relationship was found with insularity and tourism supply. This suggests that isolation might be more challenging in recessionary periods, providing some timely food for thought in light of the current pandemic and its containment measures, severely limiting mobility and leisure and cultural activities. However, our result on the negative association between the level of CCI employment and a higher specialisation of the local economy in the tourism sector gave us a glimpse of the consequences of displacement effects. This result confirms that the link between the creative sector and tourism relates more to the demand side. Indeed, UNCTAD (2010) recognised tourism as one of the major drivers of the creative economy because tourists are major consumers of creative goods and services. However, at the same time, the negative relation with the tourism supply highlights the lack of synergies between the sectors, which are engaged in competition rather than cooperation.

Looking closely into the sector and disentangling its main components allow additional considerations, including in terms of evidence-based knowledge which can inform policies in the field. First, arts and media proved to be more resilient than heritage and functional creations. Second, if we see that some of the results relating to the demography of a place are mainly driven by the subsector of functional creations, we can also observe that different determinants affect the post-shock employment performance of each subcategory. For instance, the resilience of the heritage sector was more geographically sensitive, as it was negatively affected by the location of a province in the South or an island macro-region of the country. Furthermore, a high tourism supply may represent a negative externality for functional creations and to a lesser extent the media sector.

In interpreting these findings, we acknowledge one main study limitation relating to the data source: We could only analyse a share of the overall CCIs, as small enterprises are not entirely represented in the Aida sample. Novel empirical strategies accounting for this extremely important component – that may be salient in the context of inner areas – are crucial to having a more accurate picture of the evolution of the cultural and creative economy and its spatial patterns as well as a more comprehensive understanding of the local drivers of its resilience. Leveraging the high replicability of our study could allow a comparison of the Italian case with those of other European countries in order to gain external validity and draw more generalisable reflections. Furthermore, as stated in the introduction, once data are released, it will be interesting to look at the effect of the recent global health crisis on CCIs, building on the knowledge produced on the impact of a previous shock, despite being of a different nature. These are possibilities for future research.

Beyond the above-mentioned limitations, our evidence presents important implications for policy guidance. First, there is a need to overcome the aprioristic application of one-size-fits-all culture/creativity-led development strategies, which have been successful elsewhere, especially in post-shock recovery policies through the promotion of the cultural and creative economy. In fact, our findings point to the existence of differences in the local factors underlying the resilience of each CCI subsector, thereby calling for greater recognition of the contextual conditions of the overall economic system and the abandonment of silos thinking in policy-making (e.g., better integrating tourism with cultural and creative policies). From an Italian perspective, given the more significant nature of the challenges to the resilience of CCIs in some economically weaker geographical areas (i.e., Southern Italy and the Italian Islands), there is a need to focus on this key sector of the national economy to prevent the effects of the recent pandemic from adding to those of the Great Recession, which impacted CCIs in some areas more heavily than in others, some of which have not fully recovered and risk falling further behind.

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DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

NOTES

[1] See https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/assets/thematic_analysis/scoreboard_thematic_analysis_culture.pdf

[2] See https://culture.ec.europa.eu/fr/node/1297

[3] This national strategy, launched in 2014, identifies service provision centres as municipalities (A) or groups of neighbouring municipalities (B) that provide (i) a full range of options for secondary education, (ii) at least one emergency care hospital and (iii) one railway station. All remaining municipalities are grouped into four classes according to travel time distance: outlying areas within 20 min (C); intermediate areas between 20 and 40 min (D); peripheral areas between 40 and 75 min (E); and ultra-peripheral areas at over 75 min distance (F). Classes D–F together represent 'inner areas' (UVAL, 2014).

[4] For more information on the database, see https://www.bvdinfo.com/en-gb/our-products/data/national/aida

[5] Statistical classification of economic activities in the European Community.

[6] The number of provinces in Italy has changed over time. From 1974 to 1992, the national territory was divided into 95 provinces, then 103 in 1992, 107 in 2006 and 110 in 2010. To achieve a balanced panel, the study considers the classification at 103, with the Sardinia region divided into four provinces, not eight; Milano includes the new province of Monza-Brianza; Ascoli-Piceno includes the new province of Fermo; and Bari includes the new province of Barletta-Andria-Trani.

[7] This approach has been already used in other empirical analyses in many fields. For an overview of the method, see, for instance, Biagi et al. (2015).

[8] The results are available from the authors upon request.

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