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Abstract: This article examines the resilience of in-person participation in cultural activities across Italian regions during the COVID-19 shock. Drawing on the literature on territorial economic resilience, we develop indicators, based on descriptive statistics and regression analyses, to measure both the initial impact and the capacity for recovery. Using official ticket sales data and survey responses on cultural participation from 2011 to 2022, we provide a comprehensive picture of cultural resilience across regions, identifying influential socio-economic structural factors. Our findings may offer insights for cultural and socio-economic policies aimed at strengthening the resilience of cultural participation and fostering inclusive development.

Keywords: cultural participation, in-person attendance, COVID-19.
JEL classification: Z11, R11, R15.

1. Introduction

This article investigates how various cultural activities requiring in-person attendance responded to COVID-19 lockdowns and how they recovered once restrictions were eased. To do so, we apply the concept of resilience, using resilience measures from the economic literature. Specifically, we adapt widely used resilience indicators to the cultural sector and apply them to Italy and its regions, taken as a case study.

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Recent economic studies have examined the impact of the COVID-19 lockdown – also known as the Great Lockdown – on cultural participation (e.g., Bakhshi *et al.*, 2023; Menardo *et al.*, 2023; ISTAT, 2022). However, to our knowledge, no formal indicators have been developed to assess the resilience of different cultural activities, nor have comparative studies investigated how resilience varies across cultural activities and regions within a country. Measuring resilience in cultural participation is essential, as research underscores its importance not only in influencing personal well-being (Ateca-Amestoy *et al.*, 2014; Wheatley, Bickerton, 2017; Bertacchini *et al.*, 2024; Cerisola, Panzera, 2025) but also in fostering civic and social capital (OECD, 2022; Campagna *et al.*, 2020; Crociata *et al.*, 2020) and, consequently, in promoting inclusive economic development (Lizardo, 2013; Cebula, 2024).

The concept of resilience, introduced by Holling (1973) in ecological studies, examines how complex systems respond to shocks, considering both initial impact and recovery. It has been widely applied in physics, biology, engineering, and social sciences. In economics, resilience was first explored by Martin (2012), Fingleton *et al.* (2012), and Martin and Sunley (2015), who proposed specific measures to quantify how economic systems withstand and recover from disruptions.

Economic resilience has been studied through cross-country and regional comparisons, focusing on income and employment trends. Various empirical approaches have been employed, including descriptive analyses of case studies, analyses based on simple statistical indicators (e.g., Martin, 2012; Evans, Karecha, 2014; Lagravinese, 2014), and analyses using econometric models that incorporate time-series data and spatial interactions (e.g., Groot *et al.*, 2011; Fingleton *et al.*, 2015; Di Caro, 2015; Doran, Fingleton, 2014; Cellini *et al.*, 2017; Pontarollo, Serpieri, 2020). Research typically identifies the shock, measures its impact and recovery, and compares resilience across subjects (i.e., countries or regions), potentially with a focus on sustainable development (Brown, 2016).

Economic resilience has also been used to assess sector-specific responses to macroeconomic shocks. Some studies have examined services (Huang, Farboudi-Jahromi, 2021), tourism (Cellini, Cuccia, 2015; Mussoni, Vici, 2025), while Cellini, Cuccia (2019) analysed how cultural activities contributed to the macroeconomic resilience of Italian regions. The relationship between sector diversity and regional resilience has been explored by Brown and Greenbaum (2017).

In this study, we evaluate the resilience of various in-person entertainment activities across Italy and its regions by analyzing annual data from 2011 to 2022, with the COVID-19 lockdown serving as the common shock. The impact covers 2020-2021, while recovery is assessed using 2022 data. Therefore, our analysis concentrates on the immediate post-lockdown recov-

ery, acknowledging that long-term assessments would necessitate a broader timeframe.

The study considers three dimensions. First, we analyse attendance patterns for cinemas, theatres (drama), classical music, and popular music (pop, rock, light music) to compare resilience levels across these activities. Our interpretation is based on the well-known – though debated – distinction between highbrow and lowbrow culture, as these forms of cultural consumption require different levels of cultural capital, shaped by past experiences (Stigler, Becker, 1977), formal education, and family background (Bourdieu, 1986). Previous studies suggest that lowbrow and highbrow activities were affected differently by the COVID-19 crisis (e.g., Biondo *et al.*, 2022; Bakhshi *et al.*, 2023); our findings confirm this distinction.

Second, we consider both recorded attendance data and self-reported survey responses. This lets us assess whether official figures align with individuals' subjective perceptions. While ticket sales offer objective data, they don't reveal how many unique attendees there are or how often they attend. Survey data, by contrast, provide insight into the breadth of cultural participation (OECD, 2022). From a profit-maximization standpoint, it may not matter whether higher ticket sales come from new spectators or repeat visits, but from a social welfare standpoint – even within a regional science perspective – these scenarios have very different implications.

Third, we analyse how cultural resilience varies across Italy's 20 regions during both the impact and recovery phases, highlighting key differences. We also examine structural economic factors that may influence varying degrees of resilience, from which some insights for cultural and socio-economic policy can be drawn.

The article is structured as follows. Section 2 presents the data. Section 3 introduces resilience measures. Section 4 examines resilience at the national level, while Sections 5 and 6 explore regional differences and their potential causes. Section 7 concludes.

2. Data

We analyse data at both the national and regional levels for Italy from 2011 to 2022. National-level variables are time series covering 12 years, while the regional dataset is a balanced panel with 12 annual observations for each of the 20 regions, resulting in 240 total observations. The data come from multiple sources, all of which are open and freely accessible.

First, attendance data recorded at events are provided by SIAE (the Italian Society of Authors and Publishers). To ensure consistency in year-on-year comparisons within each region, we consider ticket sales for cinema, classical music concerts, and opera separately, while we consider attendances (including both paid and free tickets) for theatre plays and popular music

Table 1: Variables and acronyms

Acronym	Variable	Source
CIN_POP	Cinema paid entries / population	SIAE
THEA_POP	Theater entries / population	SIAE
OPERA_POP	Opera paid entries / population	SIAE
MCLAS_POP	Classical music concert paid entries / population	SIAE
MPOPU_POP	Pop music concert entries / population	SIAE
CP_CIN	% of people reporting at least one entry to cinema	ISTAT
CP_THEA	% of people reporting at least one entry to cinema	ISTAT
CP_MCLAS	% of people reporting at least one entry to classical music and opera	ISTAT
CP_MPOPUR	% of people reporting at least one entry to pop/rock music concert	ISTAT
CP_OH	% of people attending at least two types of in-person cultural consumption outside the home	ISTAT

Note: Entries encompasses paid entries and free entries.
Source: Authors' elaboration on data from ISTAT and SIAE.

concerts[1]. When necessary, data is adjusted for population size, yielding an audience indicator relative to the population. We refer to all variables based on registered entries as «ticket-based» variables.

The second source is ISTAT's (Italian Statistics Office) *Multipurpose Survey on Households: Aspects of Daily Life* – a survey based on 50,000 individuals, representative of the Italian population – which provides the percentage of respondents (aged 6 and over) who declared having attended at least one performance of a given genre – cinema, theatre drama, classical and opera music, or popular (pop/rock/light) music – in the past 12 months. We refer to these as «self-reported attendance-based» variables[2]. ISTAT also provides an indicator, here denoted as *CP_OH*, that quantifies the percentage of individuals categorised as «culturally active outside the home», providing a preliminary overview of cultural participation[3].

It is important to note that SIAE's ticket-based data come from official records and have a census-based nature, covering the entire observed phenomenon, whereas ISTAT's self-reported data originate from sample-based

[1] In the context of admission to live-performance, «ticket sales» refer to paid entries, while «attendances» encompass both paid entries and registered free admissions.

[2] All these data can be downloaded from the websites of SIAE (http://www.siae.it) or ISTAT (http://dati.istat.it). However, a comprehensive and consistent dataset has also been compiled by the authors of this study and is available upon request.

[3] The indicator reports the percentage of people declaring at least two out of the following activities over the past 12 months: 1) attending four or more times cinema; 2) attending one or more times theatre performance, 3) visiting one or more times museum, 4) visiting one or more times monuments, 5) attending one or more times opera or classical music concerts, 6) attending one or more times other music concerts. Critics on this indicator are outlined by Bologna and Savioli (2020) or Cellini and Cuccia (2025).

population surveys. Additionally, as already mentioned, SIAE records total attendance (where frequent attendees contribute more to the total), while some indicators from ISTAT capture only whether someone attended at least once – or, in some cases, they report attendance frequency in broad categories. Thus, self-reported attendance substantially reflects the extensive dimension of cultural participation (i.e., how many people attended), whereas ticket-based variables simultaneously encompass both extensive and intensive dimensions of participation but are unable to differentiate between the two[4]. Table 1 lists the variables considered and their acronyms.

Figures A1 in Appendix display national-level attendance trends for cinema, theatre, classical music, and popular music, based on both ticket sales and self-reported participation. Figures A2 provide the same data for each of the 20 regions. A clear divergence emerges between the two data sources. In the ticket-based dataset, the impact of the COVID shock is evident in 2020, intensifies in 2021, and shows recovery in 2022. Conversely, in the self-reported data, the shock appears in 2021 because some respondents in the 2020 survey reported attendance in the previous 12 months, and recovery is captured in 2022.

To better understand the timing and nature of the restrictions to cultural participation, it is worth recalling that Italy experienced multiple phases of public venue lockdowns between 2020 and 2022. A nationwide lockdown in spring 2020 entailed the complete closure of cultural and hospitality venues for two months (March-May). Subsequent reopening was gradual and regionally differentiated. In 2021, restrictions fluctuated with epidemiological trends; the introduction of a «Green Pass» system regulated access to indoor spaces. However, strict distancing measures or closures of public venues were implemented only during specific very limited periods, such as Easter and Christmas. The formal end of the state of emergency in March 2022 marked a turning point, after which – aside from mask requirements in indoor settings – no restrictions remained on access to cultural events.

For most series, the 2022 recovery remains partial compared to 2011-2019 levels. This pattern is consistent across both ticket-based and self-reported data, with one exception: ticket sales for popular music concerts, which show a notable increase in 2022. Interestingly, aside from this case, recovery appears stronger in the self-reported data than in ticket-based records, particularly for theatre and classical music – activities more associated with highbrow culture. We will return to this point later.

[4] It is appropriate to note that the variable related to theatre ticket sales refers only to drama performances (for example, it does not include opera, whose attendance is recorded separately); while the self-reported attendance to classical music combines classical music with opera, these two genres are separated in SIAE ticket-based variables.

3. Resilience measures

In this article, we consider measures of resilience, initially basing on simple descriptive statistics and subsequently resorting to regression equations.

We begin by considering descriptive statistics-based indicators. Regarding the impact effect, for each variable at both the national level and for each region in Italy, we assess the ratio between the 2021 data and the average data from 2011-2019 for self-reported attendance variables. Indeed, for the self-reported attendance variables (denoted by the *CP_*prefix), the impact effect is captured by the 2021 data, because, as mentioned earlier, the 2020 data only partially reflects the imposed limitations that constitute the shock. For the variables measuring actual attendance at events (denoted by the *_POP* suffix), the impact indicator is determined by the ratio between the average data from 2020-2021 and the average data from 2011-2019. We denote this indicator as *RIMP* (resilience to impact). In symbol, for each genre *i*:

$$RIMP_i = \frac{y_i(2021)}{\overline{y}_i(2011-19)} \quad [1]$$

$$RIMP_i = \frac{y_i(2020-21)}{\overline{y}_i(2011-19)} \quad [1']$$

for self-reported attendance-based series, and for ticket-sales based series, respectively. Thus, to clarify: the impact is assessed using 2021 data for self-reported survey-based variables, and 2020-2021 data for ticket-based variables. The lower the indicator, the heavier the impact effect of the shock, thus indicating less resilience.

Regarding resilience during the recovery phase, we employ two indicators. The first is the ratio between the 2022 data and the 2021 data (or, for ticket-based variables, the average of the 2020-2021 data), which reflects the extent of change in 2022 relative to the shock-induced decline year(s). The second is the ratio between the 2022 data and the 2011-2019 average, capturing the extent to which the «historical» value – referring to the established behavior in the previous decade – has been recovered. These two indicators are termed *RRI* and *RRH*, respectively, representing acronyms for recovery-resilience-immediate and recovery-resilience-historical. In symbol, for each genre *i* (*i* = cinema, theatre, etc.):

$$RRI_i = \frac{y_i(2022)}{\overline{y}_i(2020-21)} \quad [2]$$

$$RRH_i = \frac{y_i(2022)}{\overline{y}_i(2011-19)} \quad [3]$$

Following Martin (2012), we can measure resilience, in an alternative way, by considering the specific effect of the shock in the year(s) of the impact and in the year(s) of the recovery phase *on the variation rate* of the variable of interest. In symbols, let us consider the percentage rate of change of the variable $y_{i\,t}$ over a temporal interval (in our case t = [2011, 2022]) and consider – for each genre i separately – the regression equation

$$y_{i,t}^{\cdot} = a + bS_t + cR_t + \in_t$$

where S is a dummy variable associated to the year when the shock has impacted (in our case, 2020 or 2021), R is a dummy variable associated with the year(s) of recovery (in our case, 2022), and ϵ_t denotes the error term. The estimates of coefficient b (expected to be negative) and c (expected to be positive) measure, respectively, the impact effect and the recovery ability, conditional on the average growth rate of the variable, captured by parameter a. In this simple regression design, the estimates of b and c indicate how the variation rate of the variable deviates from its average rate in the year of the shock and the year of recovery. Coefficients' estimates b and c serve as resilience indicators, denoted, for each genre i, as $RIMP\_B_i$ and $RREC\_C_i$, respectively, and referred to as regression-based resilience indicators. Since these derive from a regression, they have a stochastic nature, and their interpretation should account for their estimated variance and statistical significance (i.e., p-value or t-stat). However, following established literature, we treat them as deterministic indicators, provided they are statistically significant. The larger the algebraic values of $RIMP\_B_i$ and $RREC\_C_i$, the stronger the resilience, in terms of impact resistance and recovery capacity, respectively.

4. On the national data: comparing ticket-based with self-reported attendance variables

Basic data on Italy are presented in Part I of Table 2. Attendance levels differ significantly across cultural entertainment genres, particularly in ticket-based data. Note that between 2011-2019, the cinema ticket-to-population ratio was 1.8 (about 100 million tickets per year), whereas for opera, it was below 0.04 (just over 2 million tickets), a difference of about 50 times. In self-reported attendance, the difference is only fivefold: cinema had just under 50% of respondents declaring at least one visit per year, while opera had just under 10%. This discrepancy arises because ticket sales reflect consumption intensity, whereas self-reported data under consideration indicate whether individuals attended at least once, not how frequently.

Parts II and III of Table 2 provide resilience indicators based on descriptive statistics and regression models. While we do not report p-values or t-statistics, it is important to emphasise that all indicators are statistically

Table 2: Cultural consumption in Italy (national data) before, during and after the Great Lockdown

Variable		*I.* (*Data*)			*II.* *(Stastic-based indicators)*			*III.* *(Regression-based indicators)*	
		Historic value (2011-19)	Lockdown value	Recovery value	*RIMP*	*RRI*	*RRH*	*RIMP_B*	*RREC_C*
(a)	CIN_POP	1.739	0.484	0.815	*0.278*	*1.683*	*0.469*	*-0.692***	*0.806***
(b)	THEA_ POP	0.245	0.077	0.189	*0.316*	*2.440*	*0.772*	*-0.664***	*1.613***
(c)	LIR_POP	0.037	0.010	0.030	*0.259*	*3.120*	*0.807*	*-0.880***	*1.593***
(d)	MCLAS_POP	0.055	0.019	0.046	*0.354*	*2.377*	*0.841*	*-0.688***	*1.194***
(e)	MPOPUR_ POP	0.175	0.039	0.357	*0.221*	*9.219*	*2.037*	*-1.045***	*5.599***
(f)	CP_CIN	49.73	9.10	30.60	*0.183*	*3.363*	*0.615*	*-0.781***	*2.380***
(g)	CP_THEA	19.78	2.90	12.10	*0.147*	*4.172*	*0.612*	*-0.782***	*3.205***
(h)	CP_MCLAS	9.18	2.20	6.50	*0.240*	*2.955*	*0.708*	*-0.689***	*1.976***
(j)	CP_MPOPUR	19.46	3.70	11.20	*0.190*	*3.027*	*0.576*	*-0.764***	*2.046***
(k)	CP_OH	33.52	8.30	23.10	*0.248*	*2.783*	*0.689*	*-0.703***	*1.801***

Note: Historic value reports the average value over the period 2011-19; Lockdown value report the datum of 2020-21 (average) for variables (a)-(e) and the datum of 2021 for variable (f)-(k); Recovery value reports the datum of 2022. *RIMP, RRI, RRH, RIMP_B, RREC_C* are the resilience indicators, as defined in text (impact effect, immediate recovery; recovery with respect to the historical value, respectively).
Source: Authors' elaboration on data from ISTAT and SIAE.

significant at the 1% level (except one, significant at 5%). Both approaches yield fundamentally the same outcomes at the national level.

However, a key finding is that the resilience indicator for impact shows a stronger negative effect in self-reported data than in ticket-based metrics. In other words, the perceived shock appears more severe than what ticket data suggest – across all forms of entertainment and regardless of whether simple statistical indicators or regression-based models are used[5]. One possible explanation is perceptual bias: individuals may have perceived the crisis as more severe than it actually was, leading them to report lower levels of in-person cultural participation than what actually occurred. A complementary explanation, more firmly grounded on data, involves behavioral patterns among different types of consumers. Occasional attendees – those

[5] Our conclusion remains fully valid even if, for ticket-based data, only the year 2021 (or even just 2020) is considered in the numerator of the *RIMP* indicator – rather than the average of the two years – in order to ensure temporal alignment with the survey-based indicator. The values obtained by considering only 2021 in the *RIMP* indicator for cinema, theatre, classical music, and popular music are 0.26, 0.30, 0.38, and 0.30, respectively. These figures are very close to those reported in the table and are systematically higher than the corresponding values of the indicator deriving from the survey-based data.

who participate in cultural events sporadically – may have found it easier to stop attending altogether, while frequent attendees made greater efforts to return. Put simply, those who used to attend regularly slightly reduced their participation, whereas occasional participants ceased attending entirely. This likely implies a decline in the number of participants that is greater than the decline in tickets sold. To test this hypothesis, we examined – within the limits of available data – the breakdown of individuals by frequency of attendance, as provided by ISTAT. When calculated as a share of the total population (see ISTAT, 2024, specifically p. 465), the percentage of individuals identified as occasional participants (1 to 3 times per year) dropped significantly more than the percentage of those who identify as regular participants (4 times or more). This trend holds across all cultural activities considered and is even more pronounced when looking at the share of individuals identified as frequent participants (7 times or more). For instance, in the case of theatre attendance, the percentage of the population identifying as occasional attendees fell by about 11 percentage points (from 13.2% to 2.3%), whereas the percentage of regular or frequent attendees declined by less than two points (from 2.5% to 0.6%).

Taken together, these findings suggest that the overall drop in self-reported participation – greater than what ticket data indicate – may reflect both a perceptual bias and a compositional effect between occasional and regular or frequent attendees, with an increased share of regular and frequent attendees in the year of COVID, in all considered activities (but cinema).

Additionally, we have to consider that an amplification effect in self-declared participation may arise because the resilience indicator is calculated relative to the fraction of people who previously attended. To be clear, for example, theatre ticket sales dropped by 67% from 2019 to 2020 (from 14.9 to 4.8 million), while self-reported attendance fell from 15.7% to 2.9% – a drop of 12.8% if computed on the whole population, but a decline exceeding 80% if computed on those who reported attending in 2019. Thus, the impact indicator signals a sharp drop, even though the absolute number of individuals who stopped attending and the percentage relative to the whole population are not so large.

Turning to recovery indicators, we assess attendance in 2022 compared to 2020-2021 (for ticket-based data) and 2021 (for self-reported data). In cinema, theatre, and classical music, self-reported recovery appears to be stronger than ticket-based recovery. This aligns with previous findings: individuals may have perceived the initial shock as more disruptive than it actually was, and the recovery among the occasional attendees is more pronounced than the recovery among regular and frequent attendees.

At the same time, self-reported recovery indicators also show less variability across genres compared to ticket-based data. Notably, ticket-based data indicate an 80% recovery rate in 2022 compared to the 2011-2019 averages, for theatre and classical music concerts, while cinema lags behind

at 47%, and live popular music concerts nearly doubled in 2022 compared to 2011-2019. Self-reported attendance suggests a 58%-71% recovery rate across all genres, displaying less variation.

From a comparative perspective, popular music experienced the sharpest decline during the lockdown but also the strongest rebound. In 2022, Italy saw a surge of live music events, driven by rescheduled concerts from 2020-2021 and a widespread increase in offerings of popular music concerts, particularly during the summer (of course, also due to the outdoor feasibility). According to SIAE (2023, pp. 78-80), 31,000 light, pop and rock music performances were held in 2022, attracting 20.9 million attendees, that is, 8 million more than pre-pandemic average levels. Thus, 2022 attendance grew by 574% compared to 2021, and by 66% compared to 2019. While ticket sales for popular music surged, cinema struggled to recover, continuing its pre-pandemic decline. This trend may indicate a broader shift towards digital consumption, which has impacted cinema more significantly than live theatre and music concerts. The key difference lies in the role of digital tools in cultural consumption. Both cinema and theatre were restricted during the lockdown, yet theatre rebounded more quickly. This is likely because theatrical experiences are harder to replicate online, whereas cinema faces intense competition from streaming platforms. The slow recovery in cinema attendance – already in decline between 2011 and 2019 – aligns with a long-term shift towards at-home viewing (see, e.g., Putnam, 2020).

These trends in attendance also reflect broader shifts in cultural consumption patterns. Data show that popular culture (cinema and pop concerts) experienced more significant fluctuations, while highbrow culture (theatre and classical music) remained more stable. One possible explanation for this is consistent with Peterson's (1992) omnivore hypothesis, which suggests that individuals with higher levels of education and cultural capital have increasingly adopted an eclectic approach to cultural consumption: rather than abandoning traditional highbrow tastes, these «cultural omnivores» supplement them with popular forms, reflecting a broader and more inclusive cultural repertoire. This framework implies a division between omnivores and univores: omnivores tend to engage with both highbrow and lowbrow cultural activities, often with greater frequency and consistency; univores, by contrast, are more likely to engage only occasionally, and primarily with popular cultural forms. In this light, the more severe fluctuations observed in popular culture during the COVID-19 period may reflect the greater vulnerability of univore consumers – who, being less habitually engaged, were more likely to stop participating altogether during the crisis. Meanwhile, omnivores, who also consume highbrow culture and tend to be more culturally resilient, maintained their engagement, contributing to the relative stability of highbrow attendance.

However, some scholars have questioned the explanatory power of the omnivore model. Critics argue that it may overstate the extent of cross-class

cultural convergence: while elites may diversify their tastes, they often continue to uphold symbolic boundaries that reinforce social distinction. Moreover, omnivorousness may in some cases be more aspirational than actual (see de Vries, Reeves, 2021), and the modes of engagement – even with the same cultural products – can differ substantially depending on individuals' levels of cultural capital (Peterson, 2005). Thus, the stability of highbrow cultural consumption may reflect not only the enduring preferences of a culturally engaged elite, but also the structural (economic, educational, and symbolic) barriers that limit broader access to these forms of cultural participation. Meanwhile, the fluctuations in popular culture could be shaped by trends, technological shifts, and generational tastes, which tend to evolve more rapidly.

5. Differences across the regions

5.1. Data and simple statistical indicators

The focus in what follows is on the comparison between regions. It is important to adopt a regional perspective, given the significant and persistent territorial disparities in Italy. Income levels – and, more broadly, overall socio-economic development – vary greatly across Italian regions, as extensively documented in the literature (to cite just a few recent studies, see Accetturo *et al.*, 2024; Perchinunno *et al.*, 2024). Among the key factors behind regional inequalities, different levels of human and social capital are a determining element (Putnam *et al.*, 1993; Felice, 2011). Numerous studies (e.g., EU Commission, 2018; Crociata *et al.*, 2020; Tubadji *et al.*, 2022) highlight the links between cultural participation and human and social capital. Therefore, it is not surprising that regional disparities also exist in cultural engagement. Our dataset documents significant differences in baseline levels of participation across the regions, as measured by the annual average of variables under scrutiny from 2011 to 2019[6].

Given the strong regional heterogeneity in cultural participation, we assess whether this also extends to the resilience against external shocks. This section focuses on data and statistic-based resilience indicators, while regression-based indicators will be addressed in Section 5.3. We examine cultural genres sequentially, highlighting regional differences.

Table A1-A in the Appendix provides regional cinema attendance data. Southern regions exhibit lower attendance than Northern ones. The lockdown's impact, measured by the reduction in moviegoers, was less severe in

[6] Regional differences also concern cultural infrastructures and the potential supply of cultural services. See Bertacchini *et al.* (2024), who, however, argue that, although substantial, these differences are not significant in explaining regional disparities in cultural participation. See Aronica and Pizzuto (2023) for a focus on regional differences concerning the reaction to the COVID-19 shock.

the South relative to historical data. This is evident in ticket sales, where the cross-regional correlation between the baseline values of attendance and *RIMP* turns out to be -0.79 (statistically significant at 1%). However, this pattern does not hold for self-reported attendance, where the correlation turns out to be +0.29 (not significant, even at 10%). Similar evidence is found in the recovery patterns. The resilience indicator is negatively correlated with historical attendance when evaluated through ticket sales, meaning recovery was more difficult in regions with higher pre-pandemic ticket sales. Conversely, the correlation is positive but not significant when based on self-reported attendance. In general, when considering recovery in relation to the shock impact, it becomes clear that stronger immediate recoveries followed more severe impacts (the cross-regional correlation between *RIMP* and *RRI* turns out to be -0.69 for ticket sales and -0.90 for self-reported attendance).

Some similarities emerge in the other cultural activities examined. As for theatre attendance (Table A1-B), Southern regions show lower participation compared to Northern ones, but, unlike cinema, no strong association exists between the COVID-19 shock and baseline attendance, whether assessed through ticket sales or self-reported declarations. Regarding recovery, ticket sales suggest it was more challenging in regions with higher historical attendance, whereas self-reported data do not show the same trend. For classical music (Table A1-C), Southern regions experienced a less severe impact and a stronger recovery. This does not imply that regional differences have narrowed: the South saw a milder contraction and quicker rebound, though it remains structurally behind the North. For popular music (Table A1-D), the shock's impact was notably lighter in the South, especially in ticket sales, possibly due to more favourable weather conditions that allowed outdoor concerts to continue during partial lockdowns in 2020-2021. Recovery also appears smoother in Southern regions. However, due to substantial pre-pandemic structural differences, further analysis is needed to assess whether the COVID-19 shock and recovery have effectively reduced regional disparities. This issue is explored in the next Section.

5.2. The pattern over time of the differences across regions

To evaluate whether regional differences in cultural participation were narrowing or widening, and how the COVID-19 shock affected this trend, we apply the concept of sigma-convergence, borrowed from economic literature (Barro, Sala-i-Martin, 1995). Specifically, we examine changes in the coefficient of variation over time, before and after the COVID-19 lockdown, for the different genres of cultural activities under consideration. A decreasing trend over time of the coefficient of variation signals sigma-convergence. Table 3 reports these values for 2011, 2019, and 2022.

For cinema, the COVID-19 shock slightly increased regional inequalities over time. In ticket sales data, this rise disrupted an ongoing convergence trend, though that trend coincided with a steady decline in overall ticket

Table 3: Sigma-convergence across regions

	2011	2019	2022		2011	2019	2022
CIN_POP	0.361	0.303	0.325	CP_CIN	0.082	0.102	0.132
THEA_POP	0.429	0.420	0.347	CP_THEA	0.243	0.220	0.280
MCLAS_POP	0.513	0.403	0.354	CP_MCLAS	0.228	0.130	0,203
MPOPUR_POP	0.716	0.463	0.382	CP_MPOPUR	0.173	0.146	0.229
				CP_OH	0.191	0.165	0.224

Note: The Table reports the coefficient of variation across the 20 observations (pertaining the Italian regions), in year 2011, 2019 and 2022.
Source: Authors' elaboration on data from ISTAT and SIAE.

sales, indicating a «downward convergence». In theatre, the shock reduced regional differences in ticket sales but slightly increased them in self-reported attendance. The same pattern holds for classical and popular music: while ticket sales data show reduced disparities, self-reported attendance suggests a slight widening. Similarly, according to ISTAT's aggregate cultural participation index (*CP_OH*), regional inequalities – declining from 2011 to 2019 – rose after the COVID-19 shock. In sum, Italian regions exhibit persistent disparities in cultural participation, measured both by ticket sales and self-reported attendance. Ticket sales data suggest that lockdown effects widened regional differences for cinema but reduced them for theatre, classical music, and popular music. In contrast, self-reported attendance shows an increase in regional disparities for all genres.

More specifically, ticket sales data reveal greater regional variability than self-reported participation. However, the variation over time – especially around the COVID-19 shock – is more pronounced in self-reported data (except for popular music). This could suggest that the shock's effects, and subsequent recovery, are amplified in perception-based data compared to official figures. Yet, when considering absolute numbers of respondents who reported attending events, the variation around the COVID-19 shock is less significant than for ticket sales. This suggests that the shock did not fundamentally alter audience composition.

Moreover, the increased digitalisation (driven by lockdown measures) – sometimes seen as a democratising force – did not lead to broader in-person participation, particularly in highbrow cultural events. This aligns with the evidence provided by Ateca-Amestoy and Prieto-Rodriguez (2024) for the case of the US: they show that digital access to culture does not overcome socio-economic barriers to in-person cultural consumption. A concordant conclusion emerges also from Leguina *et al.* (2025) in reference to the UK theatre sector: they point out that online experience may foster future in-person attendance, but find that this multiplier effect operates especially in the case of high-quality online cultural experiences, and that structural social inequalities persist online.

5.3. On the resilience indicators from regression analysis

So far, our analysis of resilience indicators has been based on simple statistical measures (*RIMP*, *RRI*, *RRH*). We now turn to the estimated coefficients derived from regression equations involving growth rates (*RIMP_B*, *RREC_C*). Table A2 in Appendix presents these resilience indicators for the series based on ticket sales data[7]. A comparison with their counterparts derived from simple descriptive statistics is possible. The series composed of the twenty regional resilience indicators *RIMP* and *RIMP_B* show a positive and significant correlation (at least at the 5% level) across all cultural genres, except for classical music, where no positive correlation emerges. This suggests they might be used interchangeably, though regional rankings within each genre may vary slightly depending on the chosen indicator. For theatre and popular music, rankings remain largely consistent regardless of whether *RIMP*, *RIMP_B*, or other resilience indicators (*RRI*, *RRH*, *RREC_C*) are considered. However, for cinema – and to some extent, classical music – rankings differ more notably. This discrepancy arises because regression-based resilience indicators account for past percentage variations, unlike purely statistical measures. While no indicator is definitively «correct,» they represent different perspectives on resilience, either conditioned or unconditioned by historical growth trends.

The interpretation of these indicators is clear: the most significant impact across all cultural genres occurs consistently in Southern regions of Italy, revealing their lower resilience when accounting for past growth rates. While simple statistical measures suggested that regions with lower cultural participation suffered less from COVID-19's impact, indicators that take into account the past trends indicate greater difficulty precisely in areas with historically low participation.

Regarding recovery resilience, no distinct geographical pattern emerges. Although Southern regions generally show weaker recovery, there are notable exceptions, with some Southern regions even standing out as «recovery champions».

6. Investigating the reasons for different participation and resilience

In this section, we analyse the correlation between resilience indicators and socio-economic characteristics across regions, aiming to identify structural

[7] For the sake of completeness, and for possible comparisons, the *RIMP_B* and *RREC_C* coefficients are also computed for the series based on self-reported attendance-based data, and printed in Table A3 in Appendix.

economic factors potentially associated with the resilience of cultural activities. Given the limited number of observations available – corresponding to the 20 Italian regions – we rely on correlation analysis as a preliminary tool to explore the extent to which the variables co-move. While this approach offers initial insights into potential associations, we acknowledge that it does not allow for causal inference, which constitutes a limitation of this segment of the investigation.

For the sake of brevity, we present here only the results based on ticket sales data and regression-based resilience indicators, as such a combination offers the most relevant insights into how socio-economic conditions influence regional resilience. However, the evidence derived from self-reported attendance data and the statistics-based resilience index leads to comparable findings in terms of correlation with socio-economic variables; the detailed results – not reported here for the sake of brevity – are readily available from the authors.

Table 4 presents the cross-sectional correlations between indicators of «historical» cultural participation (2011-2019) and socio-economic variables for the same period. We consider: adjusted gross disposable income per capita (*INCOME*), the share of people aged 25-65 with a university degree (*GRADUAT*) as a measure of human capital, and two economic distress indicators: the unemployment rate (*UNEMPL*) and the share of NEETs (*NEET*). The selection of the socio-economic variables considered is grounded in the arguments advanced by the existing economic literature on cultural consumption. Most applied studies (see, for instance, the reviews by Seaman, 2006 and Levy-Garboua, Montmarquette, 2003) find that income variables (individual or household), education (often proxied by university attainment), and employment status are key determinants of cultural consumption. In the present analysis, we also take into account the relation of cultural participation with other variables investigated by recent targeted analyses, and intended to capture dimensions such as: civic engagement and social capital (recently studied in relation with cultural participation by Campagna *et al.*, 2020; Tubadji *et al.*, 2022; Menardo *et al.*, 2023, among others), perceived safety and exposure to criminal behavior (Tubadji *et al.*, 2015; Bertacchini *et al.*, 2024), access to digital tools enabling online cultural consumption (Bauernschuster *et al.*, 2014; Geraci *et al.*, 2022; Ateca-Amestoy, Prieto-Rodriguez, 2024; Cellini, Cuccia, 2025), and personal well-being (Ateca-Amestoy *et al.*, 2014; Wheatley, Bickerton, 2017; Bertacchini *et al.*, 2024). The specific choice of the corresponding empirical proxies under consideration is, of course, also driven by the availability of annual regional data; the considered variables are: civic and political participation (*CIVPOLPART*); volunteer activity (*VOLUNTEER*); perception of safety (*SAFEPERC*); burglaries (*THEFT*); satisfaction with life (*SATISFLIFE*); leisure time satisfaction (*SATISFLEISURE*); household internet access (*INTNT_ACHOME*); internet users (*INTNT_USERS*); and internet use for buying music or movies (*INTNT_BUYMM*), all sourced

from ISTAT[8]. While each of these dimensions would merit a dedicated study, the correlation analysis presented here aims to offer a preliminary overview. Despite the simplicity of the method, the findings in most cases provide consistent indications that tend to support the hypotheses advanced in the existing literature.

The positive correlation between cultural participation indicators and income and education levels is unsurprising, as these are key determinants of cultural demand (Seaman, 2006). Notably, popular music has the lowest (though still significant) correlation with education but the highest with income. The significant negative correlation between cultural participation and socio-economic distress indicators is also noteworthy: higher unemployment and NEET rates correlate with lower cultural participation. This negative correlation is the strongest for popular music, consistently with the highest positive correlation that emerged with income. Thus, a systematic correlation between historical cultural participation and socio-economic variables emerges. Interestingly, the correlations with the variable capturing perceived safety exhibit the expected sign, that is, greater perceived safety is associated with higher levels of cultural participation outside the home. However, this pattern does not hold for variables reflecting actual crime rates based on reported incidents. The evidence presented for thefts mirrors that emerging for homicides and robberies (not reported for brevity). Perhaps perception plays a more significant role than reality in promoting cultural participation outside the home. Notably, there is a positive association between cultural attendance and satisfaction with leisure, and with the life more generally. This evidence aligns with recent studies on the Italian context, which show a positive relationship between cultural participation, on the one hand, and satisfaction and individual well-being, on the other (see, e.g., Bertacchini *et al.*, 2024; Cerisola, Panzera, 2025).

Moreover, the strong positive correlation between internet accessibility and usage (especially for cultural purchases) and cultural participation outside the home confirms previous findings (e.g., Cellini, Cuccia, 2025), highlighting that internet access and cultural participation are complementary. In Italy, this correlation also reflects the economic and socio-cultural divide between the regions, with the Southern ones lagging behind.

[8] *CIVPOPPART* is the percentage of individuals aged 14+ engaging in at least one civic or political activity, such as discussing politics weekly, staying informed on Italian politics weekly, participating online in consultations or votes, or posting opinions on socio-political issues. *VOLUNTEER* is the percentage of individuals who, in the 4 weeks prior to the interview, voluntarily dedicated time to activities benefiting others or the community. *SAFEPERC* is the percentage of individuals aged 14+ who feel safe walking alone in the dark. *INTNET_ACHOME*, *_USER*, and *_BUYMM* represent the percentage of people with home internet access, using the internet in the last three months, and using it to buy music or movies, respectively. *SATISFLIFE* and *SATISFLEISURE* are the percentage of people highly satisfied with their life and leisure time (score ≥8/10). All definitions by ISTAT; see https://www.istat.it/it/benessere-e-sostenibilit%C3%A0/obiettivi-di-sviluppo-sostenibile/gli-indicatori-istat.

Table 4: Correlation between historical values of cultural participation and socio-economic conditions across the regions

	CIN_POP_BASE	THEA_POP_BASE	MCLAS_POP_BASE	MPOPUR_POP_BASE
INCOME	0.715***	0.757***	0.779***	0.841***
GRADUAT	0.705***	0.638***	0.603***	0.570***
UNEMPL	-0.599 ***	-0.591 ***	-0.698 ***	-0.716 ***
NEET	-0.634 ***	-0.596 ***	-0.700 ***	-0.731 ***
CIVPOLPART	0.737***	0.678***	0.744***	0.727***
VOLUNTEER	0.240	0.518**	0.669***	0.550**
SAFEPERC	-0.384*	-0.244	-0.204	-0.133
THEFT	0.728***	0.4970**	0.587***	0.634***
SATISFLIFE	0.176	0.3822*	0.569***	0.482 **
SATISFLEISURE	0.278	0.4537**	0.589***	0.486**
INTN_ACHOME	0.752***	0.7668***	0.802***	0.782***
INTN_USERS	0.720***	0.7853***	0.825***	0.838***
INTN_BUYMM	0.743***	0.721***	0.716***	0.921***

Note: Critical values, for 20 observations, are: 0.378, 0.444, 0.561, in the cases of two-tail 10%, 5%, 1% significance level, respectively (*, **, ***).
Source: Authors' elaboration on data from ISTAT and SIAE.

In this study, we are mainly interested in investigating the relations between socio-economic variables and the *resilience capacities* of different cultural genres. Table 5 reports the (cross-section) correlations between the structural economic variables and the resilience performance indicators of the regions, derived from the regression analysis approach (*RIMP_B*, *RREC_C*)[9]. The regression coefficients used as resilience indicators are, of course, considered with their algebraic sign.

It is worth noting that the observed correlations are not statistically significant in a number of cases, which suggests that our interpretations should be approached with caution. Nevertheless, they indicate that the impact resilience of cultural activities to external shocks is shaped by a complex interplay of economic, social, and technological factors, with notable variation across cultural domains.

Regarding the impact effect, higher per capita income is associated significantly with better resilience to impact for theatre, classical music, and popular music, while it significantly correlates with poorer resilience for

[9] For reasons of brevity, we report here only the correlation between resilience indicators derived from regression and ticket-sale data. Of course, the analysis can be replicated using statistics-based resilience indicators and self-reported attendance data; however, in those cases, the outcomes are substantially similar, although some correlations are less significant. Detailed results are available from the Authors.

Table 5: Correlation between resilience indicators of cultural participation and socio-economic conditions across the regions

	RIMP_B				*RREC_C*			
	CIN_POP	THEA_POP	MCLAS_POP	MPOPUR_POP	CIN_POP	THEA_POP	MCLAS_POP	MPOPUR_POP
INCOME	-0.421*	0.488**	0.379*	0.465**	0.575***	0.037	0.202	-0.296
GRADUA	-0.154	0.151	0.428*	0.354	0.046	0.066	0.178	0.018
UNEMPL	0.176	-0.289	-0.377	-0.351	-0.413*	-0.076	-0.175	0.097
NEET	0.201	-0.335	-0.401*	-0.398*	-0.434*	-0.016	-0.174	0.142
CIVPOLPART	-0.327	0.429*	0.497*	0.343	0.508**	-0.139	0.267	-0.263
VOLUNTEER	-0.358	0.315	0.171	0.257	0.604***	0.044	0.069	-0.212
SAFEPERC	0.388*	-0.22	-0.241	-0.353	0.429*	0.222	0.296	0.24
THEFT	-0.263	0.417	0.434	0.503**	0.097	-0.155	-0.14	-0.347
SATISFLIFE	-0.126	0.282	0.176	0.169	0.694***	0.021	0.261	-0.169
SATISFLEISURE	-0.114	0.124	0.25	0.234	0.451**	0.279	0.147	0.079
INTN_ACHOME	-0.440*	0.438*	0.510**	0.397*	0.442*	-0.17	0.212	-0.251
INTN_USERS	-0.483**	0.461**	0.437*	0.376	0.564***	-0.063	0.287	-0.284
INTN_BUYMM	-0.490**	0.569***	0.246	0.486**	0.537**	-0.108	0.213	-0.441**

Note: Critical values, for 20 observations, are: 0. 378, 0.444, 0.561, in the cases of two-tail 10%, 5%, 1% significance level, respectively (*, **, ***).
Source: Authors' elaboration on data from ISTAT and SIAE.

cinema: for all cultural activities except cinema, higher income mitigated the shock's negative effect, while regions with higher income saw the worst impact in cinema. Probably, the populations of wealthier regions have more readily substituted in-person cinema attendance with other products, including costly streaming services, which proliferated during the pandemic.

Higher education levels are significantly linked to a reduced negative impact in classical music, but not for other cultural activities. This means that education has been more effective in limiting the attendance reduction in the case of classical music – where the human and cultural capital embodied in individuals is more important as compared to other forms of cultural consumption.

Unemployment and NEET rates predominantly show negative associations with resilience (except cinema), indicating that regions with weaker labour markets experienced more severe cultural participation disruptions. This negative correlation – admittedly, not always statistically significant – reflects the vulnerability of cultural consumption to economic insecurity: cultural activities often require not only financial resources but also psychological availability, both of which are constrained under conditions of labour market exclusion. The exception of cinema again is possibly due to its lower cost and easier accessibility.

The role of internet accessibility emerges as a significant finding. For cinema, greater internet access and digital tool availability correlate with poorer resilience to impact. In regions with better digital infrastructure, the substitution between in-presence and online consumption has been easier, resulting in more severe impacts on cinema attendance. For theatre and music, the positive association can be consistent with the fact that internet access appears as a complement rather than a substitute as long as the shared physical space, the immediacy, the social ritual - remained fundamentally irreplaceable by digital alternatives (De La Vega *et al.*, 2020; Ateca-Amestoy, Prieto-Rodriguez, 2024).

The positive association of civic engagement with impact resilience in most cultural domains suggests that social capital and community involvement strengthen the capacity of cultural ecosystems to withstand shocks, either through institutional support or through informal networks that sustain demand. Cinema, however, diverges once more. However, this does not necessarily imply that cinema – with its more commercially driven consumption model – is less embedded in civic and communal structures. On the contrary, it may suggest that in areas with higher levels of social capital, where individuals tended to adopt more cautious behaviours at the onset of the COVID-19 pandemic (as documented, e.g., by Makridis, Wu, 2021; Bartscher *et al.*, 2021; and Alfano, Ercolano, 2021, for the Italian case), cinema attendance declined more sharply. This sharper decline – possibly due also to the greater availability of substitutes for cinema compared to other cultural activities, as mentioned before – resulted in a more pronounced

adverse impact, thereby leading to the negative correlation between social capital and impact resilience indicator for cinema.

As for recovery, we previously noted that the 2022 data capture only the immediacy of the rebound. Overall, the correlation between recovery resilience indicators and socio-economic variables is weak, suggesting that recovery dynamics may be influenced by factors not captured by the structural indicators considered in our cross-sectional analysis. For this reason as well, we recall that any interpretation should be approached with great caution. Cinema emerges as the cultural activity whose recovery resilience shows the strongest correlations with structural indicators; however, it is crucial to contextualise this finding, and to remember that cinema displays the worst overall recovery capacity across all sectors. Thus, the correct interpretation of the figures in the table is that, for example in the case of cinema, regions with higher income – as well as lower unemployment and NEET rates – performed relatively better, within a context of generally weak cinema recovery. It is worth noticing that popular music concert attendance shows a negative correlation with internet accessibility, particularly with the share of users purchasing music and movies online: in regions where online cultural consumption behaviours became more entrenched, the recovery in live popular music attendance has been weaker. This suggests a potential «habit formation» effect in this case: populations that normalised online cultural consumption during lockdowns were slower to return to in-person events. In any case, the varying impact of internet access across sectors supports the hypothesis that the ease of substitutability between in-person and online consumption differs across cultural goods.

Taken together, these findings underscore the importance of distinguishing between cultural sectors when assessing resilience, and highlight that economic capacity, educational attainment, social cohesion, and technological infrastructure interact in shaping cultural behaviour under stress. Moreover, the weaker correlations during recovery suggest that structural advantages that protected regions during impact do not automatically translate into faster recovery, possibly because recovery depends more on dynamic behavioural adaptation and confidence restoration, that our data limited to 2022 cannot capture.

7. Concluding remarks

This study has evaluated the economic resilience of in-person cultural entertainment during the Great Lockdown, using Italy and its regions as a case study. Notable differences in cultural attendance across activities and regions have been identified, based on both ticket sales data and respondents' self-reported attendance from national surveys. By considering these data sources together, we have addressed the limitations of publicly available

regional data at regional level, which did not provide insights into individual attendance frequency.

The results can be summarised as follows. Regarding ticket-based data, recovery rates in 2022 reached approximately 80% of the pre-pandemic average (2011-2019). However, cinema stands out as a negative outlier, with recovery below 50%, while popular music concerts experienced the most significant initial shock but showed the strongest recovery, with 2022 ticket sales nearly doubling the historical average. Theatre and classical music, while less affected initially, exhibited a more modest recovery relative to historical attendance. Regarding self-declared attendance, resilience indicators suggest a more severe impact than ticket-based data. In other words, the perceived impact of the pandemic appeared greater when assessed through respondents' answers. At the same time, the shock clearly led occasional consumers to disengage, significantly reducing the share of individuals classified as participants, while the decline among more regular attendees was comparatively limited. Self-reported data also showed a narrower recovery range, varying between 58% for popular and 73% for classical music. The misalignment between self-reported declarations and ticket sales is particularly striking for popular music, where self-reported data showed the worst recovery compared to historical attendance, whereas ticket sales indicated the best recovery.

Regional disparities offer further insights. Ticket sales data show that the lockdown shock exacerbated differences in cinema attendance while slightly reducing disparities for theatre, classical music, and popular music. Conversely, self-reported attendance data suggested that regional differences widened across all cultural activities after the shock.

Overall, the Great Lockdown did not lead to regional convergence in cultural participation, nor did it expand audiences in the year following the removal of distancing measures. While the shift to consuming cultural content online could theoretically democratise access and stimulate subsequent in-person attendance, the increased use of digital tools did not result in a broader audience for live events. Disparities in usage – likely tied to income level, education, and human capital – remain significant, suggesting that the forced rise in digital cultural consumption during the lockdown did not translate into wider in-person participation later on.

Our findings, based on aggregate data, are consistent with existing evidence from micro-data – see, e.g., Menardo *et al.* (2023), who surveyed over 1,000 Italians on cultural and social behaviours during the COVID-19 lockdowns and suggested that the shock may have exacerbated disparities in cultural consumption, as individuals with a high propensity for cultural and social engagement continued their activities, whereas those with lower propensities struggled to replace in-person experiences with online alternatives. These individual dynamics may have contributed to widened differences and even a decline in participation in the post-lockdown period.

Our present study has also highlighted that different resilience indicators yield slightly different narratives regarding the immediate impact of the shock and the recovery process across the Italian regions. Regions that had higher pre-pandemic participation seem to have been more resilient in the short term, but recovery patterns remain unclear, likely due to the limited timeframe of the analysis. A longer observation period would have been necessary to fully assess the post-pandemic evolution of in-person cultural attendance. It should also be acknowledged that the evidence presented in this work does not allow for strong causal claims; that is, it does not permit the identification of the causes underlying the differing resilience performances.

Despite these limitations, this study represents one of the first attempts to assess the resilience of different cultural sectors across regions within a country, offering a coherent framework for measuring, comparing, and analysing the resilience of cultural activities. We believe that the findings may offer a novel and informative contribution to the literature, particularly in terms of methodology and data integration, and more specifically through the proposal and computation of tailored resilience indicators. However, future research is necessary to further explore the long-term effects of the Great Lockdown on cultural participation, and to examine how digital engagement, evolving consumer preferences, and policy interventions influence the resilience of the cultural sector and its role in fostering inclusive access to cultural experiences.

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Appendix

Table A1-A: Cinema attendance resilience indicators

	CIN_POP				CP_CIN			
	Baseline	*RIMP*	*RRI*	*RRH*	*Baseline*	*RIMP*	*RRI*	*RRH*
Piemonte	1.944	*0.246*	1.763	*0.434*	49.556	0.172	3.447	0.591
Valdaosta	1.903	*0.245*	**1.934**	0.473	46.000	0.170	3.718	0.630
Lombardia	1.934	0.284	1.785	0.508	51.133	0.174	3.449	0.600
Trentino A.A.	1.122	0.301	**2.048**	**0.617**	43.344	**0.228**	2.939	0.671
Veneto	1.646	0.278	1.760	0.490	47.778	0.172	3.439	0.590
Friuli V.G.	**2.036**	0.267	**1.812**	0.484	49.078	0.181	3.191	0.579
Liguria	1.851	0.255	1.773	0.453	48.511	*0.146*	3.746	*0.548*
Emilia R.	**2.339**	0.282	1.662	0.468	**51.956**	**0.219**	2.772	0.608
Toscana	1.927	0.274	1.627	0.445	**51.678**	0.203	*2.771*	*0.563*
Umbria	1.826	0.301	1.551	0.466	48.422	0.256	*2.427*	0.622
Marche	1.995	*0.250*	1.664	*0.416*	49.556	0.180	3.427	0.615
Lazio	**2.425**	0.256	1.720	0.440	**57.778**	0.177	3.529	0.623
Abruzzo	1.768	0.308	1.469	0.453	50.344	0.161	4.086	**0.657**
Molise	*0.604*	0.325	*1.349*	0.438	*41.833*	*0.124*	**5.115**	**0.636**
Campania	1.311	0.257	1.539	0.396	50.033	0.164	**4.695**	**0.769**
Puglia	1.374	**0.343**	1.442	0.494	48.189	0.189	3.297	0.623
Basilicata	*0.715*	**0.416**	*1.299-*	**0.541**	42.844	0.159	3.588	0.570
Calabria	*0.574*	**0.362**	*1.420*	**0.513**	*40.178*	*0.110*	**4.909**	*0.538*
Sicilia	1.156	0.289	1.646	0.476	47.422	**0.226**	*2.570*	0.580
Sardegna	1.164	0.296	1.724	0.510	*40.844*	0.191	3.115	0.595

Note: For each indicator, the three highest (lowest) values are shown in **bold** (*italics*). The regions from Abruzzo to Sardegna are classified as Southern. This same note applies to all tables in the Appendix.
Source: Authors' computation on data from ISTAT and SIAE.

Table A1-B: Theatre attendance resilience indicators

	THEA_POP				CP_THEA			
	Baseline	*RIMP*	*RRI*	*RRH*	*Baseline*	*RIMP*	*RRI*	*RRH*
Piemonte	0.224	0.322	2.508	0.807	19.344	0.160	3.613	0.579
Valdaosta	0.156	0.299	**2.742**	0.821	14.511	*0.076*	**7.636**	0.579
Lombardia	0.266	0.285	2.657	0.758	22.044	0.132	4.586	0.603
Trentino A.A.	**0.347**	0.284	2.423	0.688	**30.933**	*0.129*	4.250	0.550
Veneto	0.220	0.310	2.433	0.754	19.333	*0.129*	4.120	0.533
Friuli V.G.	**0.365**	0.326	*2.020*	*0.658*	**23.256**	0.142	3.848	0.546
Liguria	0.293	0.307	2.589	0.794	20.011	0.135	4.407	0.595
Emilia R.	0.314	0.333	2.439	0.812	21.889	**0.178**	*3.026*	0.539
Toscana	0.278	0.333	2.315	0.772	20.011	**0.185**	3.324	0.615
Umbria	0.210	0.325	2.352	0.765	20.000	**0.180**	*2.917*	0.525
Marche	0.261	0.391	*2.075*	0.811	20.433	0.152	4.677	**0.710**
Lazio	**0.378**	*0.265*	2.500	*0.662*	**26.589**	0.139	**4.757**	**0.662**
Abruzzo	0.158	**0.462**	*1.679*	0.776	16.189	0.167	3.963	0.661
Molise	*0.060*	*0.232*	**5.439**	**1.260**	*13.467*	0.149	3.700	0.550
Campania	0.183	0.323	2.621	0.847	16.778	0.143	**5.833**	**0.834**
Puglia	0.141	**0.412**	2.186	**0.900**	15.867	0.158	3.320	*0.523*
Basilicata	*0.112*	*0.167*	**4.080**	0.680	15.933	0.151	3.083	*0.464*
Calabria	*0.085*	0.310	2.669	0.828	*12.100*	0.165	4.000	0.661
Sicilia	0.214	0.338	2.391	0.808	16.567	0.139	4.043	0.561
Sardegna	0.160	**0.397**	2.162	**0.857**	*13.500*	0.163	*2.909*	*0.474*

Table A1-C: Classical music attendance resilience indicators

	MCLAS_POP				CP_MCLAS			
	Baseline	*RIMP*	*RRI*	*RRH*	*Baseline*	*RIMP*	*RRI*	*RRH*
Piemonte	0.050	0.325	2.178	0.709	9.333	0.214	3.250	0.696
Valdaosta	0.029	*0.255*	1.984	*0.506*	9.167	0.262	*1.875*	*0.491*
Lombardia	0.070	0.290	2.514	0.729	10.256	0.195	3.250	0.634
Trentino A.A.	0.093	0.385	2.087	0.804	**13.656**	0.198	3.074	0.608
Veneto	0.070	0.329	2.704	0.890	10.456	0.210	2.818	0.593
Friuli V.G.	0.064	0.413	2.263	0.935	**11.222**	0.241	2.111	*0.508*
Liguria	**0.057**	0.323	2.167	0.700	8.778	*0.194*	3.000	0.581
Emilia R.	0.058	0.425	2.195	0.933	9.444	0.212	3.500	0.741
Toscana	0.071	0.380	2.338	0.889	10.056	0.229	2.913	0.666
Umbria	**0.058**	0.347	1.930	0.670	8.656	**0.393**	*1.353*	*0.531*
Marche	0.045	0.551	1.804	0.993	9.744	*0.185*	**4.444**	0.821
Lazio	**0.077**	*0.230*	2.514	0.577	**11.189**	0.286	2.719	0.778
Abruzzo	0.052	0.429	2.589	1.110	7.911	0.228	**4.222**	**0.961**
Molise	*0.019*	0.359	**3.680**	1.320	7.656	*0.183*	3.571	0.653
Campania	*0.020*	0.468	1.901	0.890	6.656	0.270	3.444	**0.932**
Puglia	0.031	**0.554**	**2.598**	**1.438**	7.733	**0.310**	*2.042*	0.634
Basilicata	*0.020*	**1.000**	2.553	**2.554**	9.022	0.211	2.947	0.621
Calabria	*0.017*	**0.679**	2.581	**1.752**	7.178	0.195	**4.357**	**0.850**
Sicilia	0.047	0.398	2.274	0.904	7.022	**0.328**	2.435	0.797
Sardegna	0.036	*0.280*	**3.235**	0.904	7.711	0.272	2.238	0.610

Table A1-D: Popular music attendance resilience indicators

	MPOPUR_POP				CP_MPOPUR			
	Baseline	*RIMP*	*RRI*	*RRH*	*Baseline*	*RIMP*	*RRI*	*RRH*
Piemonte	0.191	*0.188*	7.951	1.497	19.900	0.166	3.576	0.593
Valdaosta	**0.271**	*0.047*	**21.487**	*1.002*	20.467	0.220	*2.133*	0.469
Lombardia	**0.258**	0.196	9.460	1.852	19.722	0.152	3.433	0.522
Trentino A.A.	0.182	0.210	10.508	2.209	**29.044**	0.196	2.719	0.534
Veneto	0.188	0.218	8.313	*1.810*	20.144	0.223	2.289	0.511
Friuli V.G.	0.200	0.278	7.511	2.092	**21.533**	0.214	*2.283*	0.488
Liguria	0.116	0.246	*6.954*	1.708	*15.944*	0.182	2.552	0.464
Emilia R.	0.234	0.253	8.986	2.277	21.000	0.152	**3.750**	0.571
Toscana	0.218	0.212	8.711	1.851	19.056	**0.236**	2.289	0.541
Umbria	0.143	0.233	*5.278*	*1.229*	19.778	**0.248**	*1.796*	*0.445*
Marche	0.189	0.261	10.620	2.772	19.922	0.191	3.263	0.622
Lazio	**0.264**	*0.159*	11.251	1.790	21.322	0.197	3.405	**0.671**
Abruzzo	0.093	**0.493**	8.702	**4.287**	21.167	0.198	**4.286**	**0.850**
Molise	*0.021*	0.327	**55.558**	**18.157**	18.578	*0.135*	**3.880**	0.522
Campania	0.075	0.251	12.120	3.040	*16.267*	0.209	3.676	**0.768**
Puglia	0.134	0.273	7.987	2.180	17.889	**0.235**	2.619	0.615
Basilicata	*0.039*	**0.352**	**18.378**	**6.464**	**22.122**	*0.131*	2.966	*0.389*
Calabria	*0.037*	**0.389**	7.863	3.057	20.144	*0.139*	3.286	*0.457*
Sicilia	0.074	0.315	*7.095*	2.233	*16.367*	0.202	2.636	0.532
Sardegna	0.079	0.233	11.848	2.766	21.100	0.190	3.027	0.576

Table A1-E: Resilience indicators for the aggregate cultural participation outside the home

	CP_OH			
	Baseline	*RIMP*	*RRI*	*RRH*
Piemonte	36.344	0.264	2.448	0.647
Valdaosta	35.989	**0.286**	*2.243*	0.642
Lombardia	38.033	0.245	2.860	0.699
Trentino A.A.	**44.389**	0.241	2.738	0.660
Veneto	36.700	0.245	2.844	0.698
Friuli V.G.	**39.400**	**0.277**	*2.284*	0.632
Liguria	33.789	0.222	2.667	0.592
Emilia R.	38.378	0.255	2.520	0.644
Toscana	36.378	0.272	2.576	0.701
Umbria	34.544	0.234	2.716	0.637
Marche	33.378	0.216	3.306	0.713
Lazio	**40.578**	**0.303**	*2.447*	0.742
Abruzzo	28.967	0.193	**4.107**	**0.794**
Molise	*24.944*	*0.164*	**4.707**	**0.774**
Campania	25.522	0.227	3.776	**0.858**
Puglia	25.000	0.200	2.740	*0.548*
Basilicata	25.989	*0.165*	**3.442**	*0.569*
Calabria	*21.400*	*0.168*	3.333	*0.561*
Sicilia	*24.889*	0.221	2.818	0.623
Sardegna	31.411	0.223	3.114	0.694

Table A2: Regional resilience as measured by *RIMP_B* and *RREC_C* (Ticket sales data)

	CIN_POP		*TEA_POP*		*MCLAS_POP*		*MPOPUR_POP*	
	RIMP_B	*RREC_C*	*RIMP_B*	*RREC_C*	*RIMP_B*	*RREC_C*	*RIMP_B*	*RREC_C*
Piemonte	-0.427	0.903	-0.678	1.642	-0.726	1.068	-1.126	4.450
Valdaosta	-0.447	**1.258**	**-0.509**	**2.076**	-0.778	**3.005**	-1.014	*1.520*
Lombardia	**-0.363**	0.801	-0.701	1.850	-0.701	1.399	-1.095	5.726
Trentino A.A.	-0.400	**1.114**	-0.653	1.876	-0.665	1.020	-0.976	7.364
Veneto	-0.399	0.836	-0.640	1.785	-0.665	1.020	-1.139	4.326
Friuli V.G.	-0.412	0.898	-0.628	1.260	-0.663	1.101	-0.944	4.748
Liguria	-0.423	0.931	-0.646	1.886	-0.702	0.942	**-0.963**	4.254
Emilia R.	-0.390	0.774	**-0.614**	1.773	-0.713	0.895	-1.008	5.670
Toscana	-0.443	0.828	-0.689	1.374	-0.698	1.099	-1.112	5.233
Umbria	-0.420	0.711	-0.657	1.614	**-0.636**	0.657	**-0.816**	*3.542*
Marche	-0.433	0.870	-0.648	*1.012*	**-0.590**	0.743	-0.967	7.233
Lazio	**-0.355**	0.780	-0.653	1.801	-0.607	**2.282**	-1.030	7.062
Abruzzo	-0.416	0.610	-0.670	*0.361*	-0.670	1.534	-1.064	4.800
Molise	-0.450	*0.606*	*-0.936*	**3.673**	**-0.534**	2.129	-1.479	**35.290**
Campania	**-0.369**	*0.545*	-0.662	1.764	*-0.828*	*0.288*	-0.997	**8.041**
Puglia	-0.449	0.672	**-0.576**	1.399	-0.651	1.127	**-0.879**	5.508
Basilicata	*-0.474*	*0.471*	*-0.909*	**1.933**	*-1.113*	*0.289*	*-1.389*	**12.187**
Calabria	*-0.512*	0.649	*-0.759*	1.491	*-1.139*	*0.419*	*-1.316*	3.959
Sicilia	*-0.512*	0.940	-0.697	1.531	-0.645	1.226	-1.158	*3.411*
Sardegna	-0.453	**0.953**	-0.737	*0.850*	-0.728	**2.146**	*-1.492*	6.013

Table A3: Regional resilience as measured by *RIMP_B* and *RREC_C* (Self-reported attendance data)

	CP_CIN		*CP_TEA*		*CP_MCLAS*		*CP_MPOPUR*	
	RIMP_B	*RREC_C*	*RIMP_B*	*RREC_C*	*RIMP_B*	*RREC_C*	*RIMP_B*	*RREC_C*
Piemonte	-0.791	2.468	-0.768	2.639	-0.728	2.255	-0.797	2.590
Valdaosta	-0.808	2.726	*-0.914*	**6.631**	-0.714	*0.879*	-0.751	*1.129*
Lombardia	-0.803	2.464	-0.786	3.623	-0.733	2.276	*-0.843*	2.434
Trentino A.A.	-0.745	1.950	-0.786	3.288	-0.684	2.115	-0.763	1.734
Veneto	-0.804	*0.452*	-0.787	3.162	-0.653	1.863	-0.722	1.308
Friuli V.G.	-0.784	2.206	-0.796	2.881	-0.653	1.147	-0.723	1.307
Liguria	*-0.814*	2.768	*-0.829*	3.429	*-0.780*	2.022	-0.814	1.558
Emilia R.	-0.762	1.780	-0.759	2.053	-0.762	2.508	-0.831	**2.755**
Toscana	**-0.742**	1.793	**-0.739**	2.357	-0.652	1.938	-0.734	*1.292*
Umbria	**-0.686**	*1.443*	**-0.733**	*1.939*	**-0.465**	*0.348*	**-0.664**	*0.816*
Marche	-0.778	2.446	-0.780	3.709	-0.747	**3.457**	-0.749	2.277
Lazio	-0.772	2.552	-0.776	**3.800**	-0.633	1.738	**-0.718**	2.431
Abruzzo	-0.808	3.108	**-0.709**	3.015	*-0.796*	**3.204**	-0.778	**3.299**
Molise	*-0.853*	4.132	-0.754	2.742	*-0.788*	2.583	*-0.835*	**2.887**
Campania	-0.794	3.715	-0.816	**4.849**	-0.716	2.429	-0.746	2.687
Puglia	-0.793	2.310	-0.807	2.337	-0.691	*1.039*	-0.733	1.624
Basilicata	-0.794	2.606	-0.743	*2.116*	-0.735	1.952	*-0.835*	1.977
Calabria	*-0.835*	3.939	-0.766	3.019	-0.706	**3.353**	-0.723	2.349
Sicilia	**-0.731**	*1.583*	*-0.824*	3.052	**-0.617**	1.441	**-0.715**	1.672
Sardegna	-0.761	2.143	-0.739	*1.936*	**-0.128**	2.732	-0.741	1.965

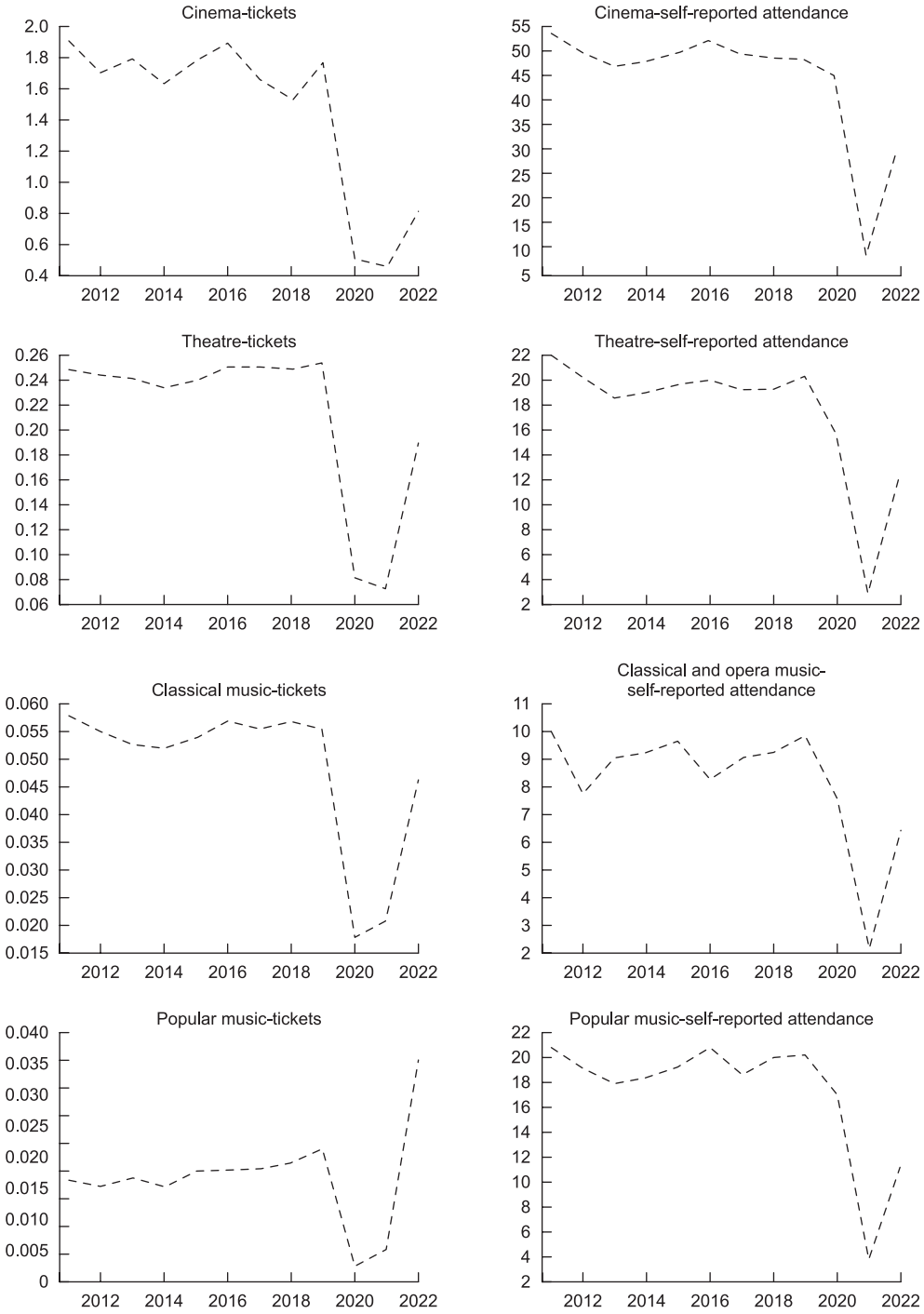

Figure A1: Attendance to cinema, theatre, classical music and popular music: registered entries and people declarations (data at the national level).
Note: Notice that the graphs use different scales, due to the varying magnitudes of the variables.
Source: Authors' computation on data from ISTAT and SIAE.

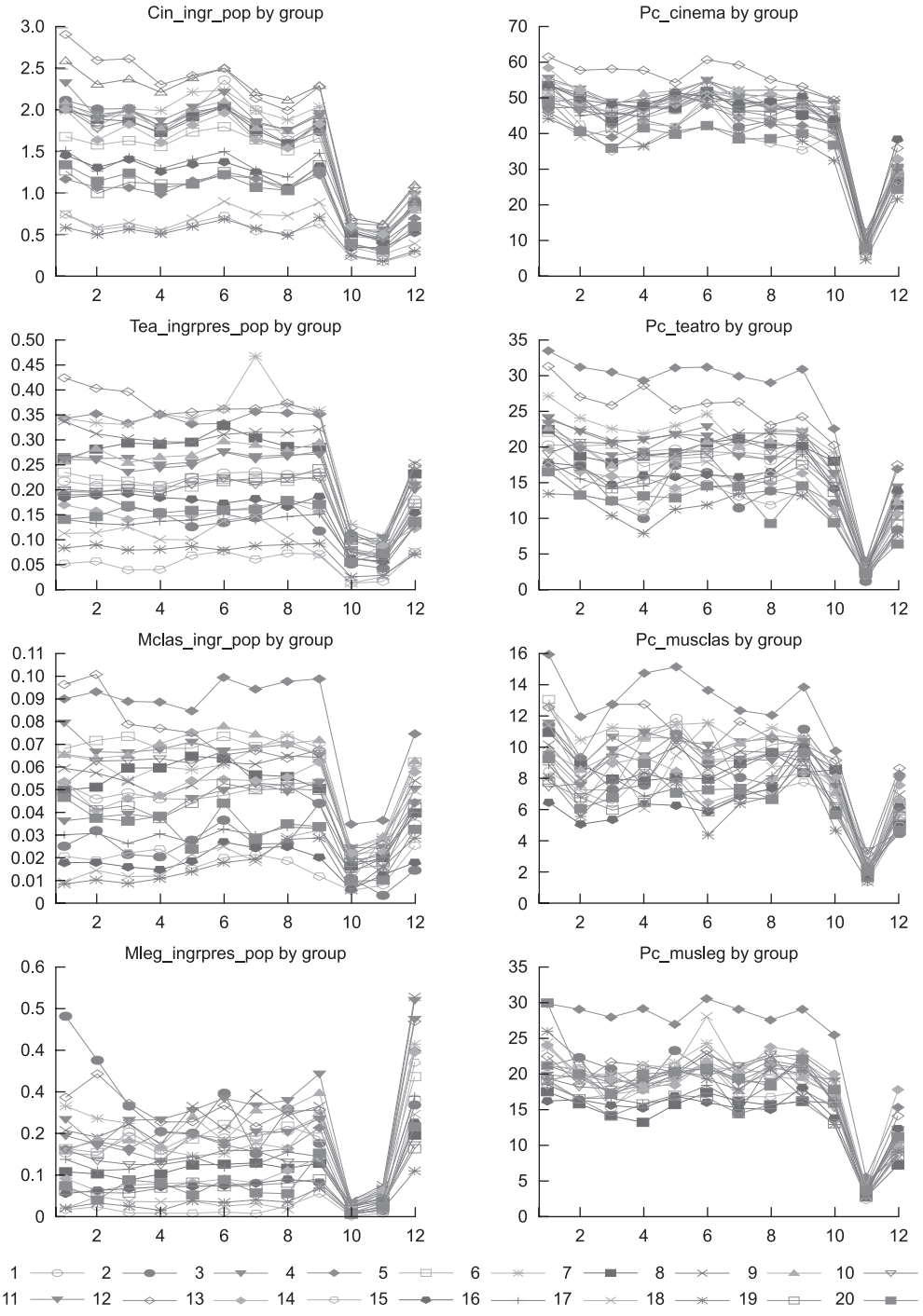

Figure A2: Attendance to cinema, theatre, classical music and popular music: registered entries and people declarations across the 20 regions over the 12 years 2011-22.
Note: Notice that the graphs use different scales, due to the varying magnitudes of the variables.
Source: Authors' computation on data from ISTAT and SIAE.