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Territorial typology and resilience: the case of french's NUTS3 post COVID19 tourism recovery

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Abstract - The COVID19 pandemic caused an unprecedented shock to the global tourism industry, leading to highly heterogeneous recovery patterns across destinations. This study investigates the role of territorial typologies in shaping tourism recovery in French NUTS3 regions between 2020 and 2022. Using an Ordinary Least Squares model with Panel-Corrected Standard Errors (OLS-PCSE), we find that metropolitan and urban destinations experienced significantly weaker recovery than rural or remote areas. This disparity is primarily attributed to shifts in tourism preferences favouring low-density environments, which were less affected by travel restrictions and perceived as safer regarding virus transmission risks. These findings remain consistent across different tourism segments, domestic and international, and are confirmed through additional robustness checks. Given the structure of France's regional tourism governance, these insights suggest that Destination Management Organizations (DMOs) should leverage the unique characteristics of their sub-territories to enhance resilience and mitigate the impacts of future crises.

JEL Classification
Z32, L83, R11, O18

Key-words
Tourism resilience
COVID19
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INTRODUCTION

The COVID19 pandemic has had a considerable impact on global tourism. The mobility restrictions put in place to limit the virus spread severely disrupted various economic sectors, particularly tourism, which experienced an unprecedented shock (Milani, 2021). To illustrate, the World Travel & Tourism Council (WTTC) estimated that, in 2019, the tourism sector accounted for 9.1% of GDP in Germany, 8.5% in France, and 14.3% in Spain, including direct, indirect, and induced contributions. In France, tourism and travel contributed to more than 9% of total employment, highlighting its crucial role in the national economy. The impact of the pandemic on tourism was particularly severe as international mobility was identified as a major channel for COVID-19 transmission. Indeed, destinations that were more exposed to international tourism before the pandemic recorded a higher number of COVID-19 cases and deaths (Farzanegan et al., 2021). However, beyond its role in spreading the virus, tourism itself became one of the most affected sectors. In this regard, Škare et al. (2021) has shown that the consequences of this crisis are unprecedented, with the most optimistic scenario projecting a decline in capital investment of 25 to 31 percentage points, varying across regions and scenarios.

A number of academic studies have explored the effects of the pandemic on the tourism industry across different scales. A report by the World Tourism Organization (UNWTO) (2021) estimated a potential loss of nearly $2.1 trillion in tourism GDP, a 63.8% drop in international travel spending, and a 48.4% decline in domestic tourism expenditures in Europe. This report also highlighted a 51.4% contraction of the European travel and tourism sector, representing a revenue loss of approximately 987 billion euros. Employment in the sector was also heavily impacted, decreasing by 9.3% despite government support measures in various European countries. At the national level, numerous studies have documented the substantial negative effects of the pandemic on tourism, both internationally (Yang et al., 2021) and within specific countries, including Malaysia (Foo et al., 2021), Turkey (Kaygin and Topçuoğlu, 2020), India (Kaushal and Srivastava, 2021), and France (Khan, 2020). Despite these contributions, there remains a significant gap in the literature regarding the impact of the health crisis at a subnational level, which merits further investigation.

In the aftermath of a shock such as COVID19, the concept of resilience becomes crucial. This term frequently appears in attempts to describe and explain individual and collective responses to crises (Monroe and Oliviere, 2007). Resilience in tourism can be defined as a destination's ability to absorb shocks, maintain operations, and recover after disruptions (Duro, Perez-Laborda, and Fernandez, 2022). This notion primarily concerns a destination's capacity to sustain tourism demand despite external shocks. While several studies have investigated the factors contributing to tourism resilience and recovery (Okafor and Yan, 2022; Helble, 2021; Gulati, 2022), none have specifically examined the role of territorial typology in post-pandemic tourism recovery. COVID19 has led to substantial shifts in travel behavior, notably a preference for rural destinations offering open spaces, reduced risk of virus transmission, and fewer restrictions. Additionally, major cities faced stricter lockdown measures due to their high population density, which further affected their tourism recovery (Curtale et al., 2023).

This study therefore examines how regional typologies influenced tourism recovery in France following the COVID19 pandemic. Specifically, it explores the resilience of different types of French departments during the crisis. To this end, we adopt a regional classification developed by the OECD and reused by EUROSTAT, which categorizes territories into three groups: metropolitan areas, urban areas and rural areas (Fadic et al., 2019). This classification, which considers both population density and connectivity to metropolitan hubs, is particularly relevant for assessing the pandemic's effects on tourism. Additionally, we incorporate an alternative OECD classification that divides regions into predominantly urban, intermediate, and rural areas. This classification is based on population density and the presence of urban centres where at least 25% of the population resides, providing further granularity in our analysis. To measure resilience, we construct a dependent variable based on overnight stays in accommodation, which is a key component of tourism activity in all regions. It plays a central role in tourism-generated economic activity and provide consistent, reliable data at the NUTS3 level. This study is one of the first to examine the link between tourism resilience and territorial typology, contributing to the literature by offering empirical insights into how different regional structures adapted to the pandemic. Given that tourism governance in France is structured around regional tourism boards, each overseeing multiple departments, it is essential that these organizations consider the distinct characteristics of their territories to enhance their resilience strategies.

The remainder of this paper is structured as follows. Section 2 provides a literature review on tourism resilience, crisis recovery, and regional typologies. Section 3 details the data and methodology used. Section 4 presents the main empirical results, followed by a discussion in section 5.

1. LITERATURE REVIEW

1.1. Tourism resilience and past crises

The concept of resilience has emerged as a central theme in tourism research, particularly in response to crises such as the COVID19 pandemic. Although resilience lacks a universally accepted definition (Aburn et al., 2016), it is commonly understood as the ability of a system to absorb, adapt to, and recover from external shocks (Carpenter and Brock, 2008). The United Nations defines resilience as "the ability of a system exposed to hazards to resist, absorb, accommodate, adapt, transform, and recover from the effect of this hazard in a timely and efficient manner" (UNISDR, 2009). In the context of tourism, resilience encompasses the capacity of destinations to maintain or regain their attractiveness and functionality after a crisis. Tourism has historically demonstrated resilience to various global crises, including the 2001 terrorist attacks, the 2003 SARS outbreak, the 2008-2009 financial crisis, and the 2015 MERS epidemic (World Bank, 2020). Despite temporary declines in tourist flows, these events did not lead to long-term stagnation of global tourism development (Gössling et al., 2020). However, the COVID-19 pandemic posed an unprecedented challenge due to its global scale, prolonged impact, and the imposition of severe travel restrictions (Hall and Williams, 2019). Unlike previous crises, COVID-19 led to prolonged shutdowns of tourism-related activities, forcing destinations to adapt in new ways, including the development of domestic tourism markets and the implementation of stringent health protocols (Novelli et al., 2018).

1.2. Determinants of post-pandemic tourism resilience

A growing body of literature has examined the factors influencing the recovery of tourism activities post-COVID-19. Among them, Okafor and Yan (2022) found that the degree of government restrictions negatively affect the recovery of tourism. The vaccination factor has also been regularly discussed in the literature, but with ambiguous conclusions.

On the one side, vaccination against COVID-19 could lead to the emergence of vaccine tourism[1]. That is what Gulati (2022) showed in his paper based on a sample of 12,258 emotions collected via a survey. He observed that positive feelings in favour of vaccine tourism accounted for 28.14% of feelings compared with 14% for negative feelings. With this in mind, many countries launched an international tourism campaign such as the Maldives (whith 3V campaign for "Visit, Vaccinate and Vacation", which would offer tourists vaccinations on arrival) ; New York City and Alaska in order to boost tourism activities while increasing the vaccination rate in their destinations (Helble, 2021).

On the other side, many studies have then shown that vaccination had no major impact on tourism recovery. Indeed, it has been shown that higher vaccination coverage does not necessarily lead to a greater resumption of tourism (Okafor and Yan, 2022), and even that vaccination is not the main factor supporting tourist activity, but rather people's desire to restart travelling (Williams et al., 2022 ; Ram et al., 2022). By contrast, it has been also observed in the literature that vaccination could stimulate participation in tourism and the resumption of tourist activities. According to Boto-García and Francisco Baños Pino (2022), vaccination increased the probability of going on holiday during the summer period by 8.3 percentage points in the general population and by 11.3 percentage points in the sub-sample of the Spanish population surveyed. In the context of vaccination itself, the introduction of the vaccination pass in several countries has also helped to revive tourist activities by giving tourists the opportunity to be exempt from mobility restrictions (Radic et al., 2021 ; Helble, 2021).

The number of deaths due to COVID19 has also emerged as a key factor in the recovery of tourism. In fact, a lower mortality rate helps to improve the recovery of tourism after the pandemic in developed economies and in those where vaccination coverage has been high (Okafor and Yan, 2022). In addition to the literature on tourism recovery factors, Curtale et al. (2023) worked on the factors that would lead to a loss of overnight stays at sub-national level of several European countries. To this end, they concluded that travel and mobility restrictions accounted for most of the loss of tourism demand in 2020. Similarly, regions characterised by a high proportion of urban tourism, a high dependence on foreign arrivals, and a combination of high tourism intensity and high seasonality have also suffered significant declines in overnight stays. Conversely, regions with large areas of tourist demand, low tourist density and natural appeals (such as a coastline, mountains, natural attractions, etc.) have seen a smaller reduction in the number of overnight stays. Although these factors cannot be directly considered as resilience factors, they are at least elements of resistance for these destinations in the face of the shock of COVID19.

[1] According to the online newspaper "*Les Echos*", vaccine tourism refers to a person travelling outside their usual environment in order to be vaccinated against COVID19.

1.3. Territorial typology and tourism recovery

The typology of regions plays a crucial role in explaining the heterogeneity of resilience patterns. Metropolitan areas, despite their economic diversification and high levels of innovation, experienced slower tourism recovery due to their reliance on international visitors and business travellers (Yang et al., 2021). In contrast, rural regions, often characterized by lower population density and stronger reliance on domestic tourists, showed greater resilience (Curtale et al., 2023). Coastal and mountain destinations also demonstrated better recovery outcomes, benefiting from natural attractions and the increased appeal of outdoor activities (Helble, 2021). However, such patterns remain complex, as urban areas also benefit from factors such as a higher level of education, better infrastructure, and greater adaptability to new tourism trends (Okafor and Yan, 2022).

Based on the literature, this study aims to test whether the typology of regions significantly influenced post-pandemic tourism resilience in France. We hypothesize that agglomeration destinations exhibited slower recovery due to their reliance on international and business tourism, whereas rural destinations and those with strong domestic tourism markets demonstrated higher resilience. Moreover, we investigate whether coastal and mountain destinations experienced a faster return to pre-pandemic levels, given their attractiveness for socially distanced tourism. By examining these aspects, this research contributes to the growing body of knowledge on tourism resilience and provides empirical evidence to support targeted recovery strategies. In summary, while previous research has identified various factors influencing tourism resilience, gaps remain in understanding the role of regional typologies in shaping post-pandemic recovery patterns. This study seeks to fill this gap by integrating territorial factors into the analysis, offering a more comprehensive perspective on tourism resilience in the aftermath of COVID19.

2. DATA

In this article, we use 96 French departments (NUTS3 regions) as our units of analysis to examine the territorial impact of the COVID19 pandemic and the recovery capacity of tourism destinations. Through the lens of resilience, we assess each region's ability to return to a stable path of growth after the health crisis. Below, we detail the main variables used in this study.

2.1. Measuring tourism resilience

Tourism resilience in the context of the COVID19 pandemic is defined as the relative recovery of tourist demand in French NUTS3 regions after the crisis. Our main approach consists of measuring resilience as the ratio of observed overnight stays from 2020 to 2022 to a pre-pandemic reference period. To do this, we use a measure of tourist overnight stays in hotels, holiday accommodations, and other short-stay accommodations such as tourist residences as classified by Eurostat. We choose to use overnights stays despite arrivals because they have a greater economic impact on destinations. The use of tourism recovery and resilience variables is common in the literature on post-COVID19 recovery (and therefore resilience) factors (Yang et al., 2021; Okafor and Yan, 2022; Duro, Perez-Laborda, and Fernandez, 2022). In our framework, resilience and recovery are closely related, since recovery reflects the capacity to return to pre-crisis tourism levels. Consequently, the recovery index used here serves as a direct proxy for resilience, capturing both the capacity of a destination to withstand external shocks and the effectiveness of its adaptation strategies. This methodological approach aligns with previous studies that consider post-crisis recovery patterns as a fundamental indicator of tourism resilience (Yang et al., 2021).

For robustness we build two alternative resilience indices. The first is used as our baseline index. For each post-pandemic year (2020–2022) we divide observed overnight stays by the 2017-2019 average. Using a three-year benchmark smooths pre-COVID volatility and filters out year-specific anomalies. Then, we used a single-year index. We repeat the exercise with 2019 alone as the reference year, testing whether the benchmark choice affects results. Our core regressions use annual data, but we also run monthly models, limited to hotel nights owing to data availability, to check that the main patterns hold at finer temporal resolution.

2.2. Typology of territories as a variable of interest

Understanding the territorial typology is essential for analysing resilience disparities across regions. In this study, we rely on two complementary classification systems: the OECD and Eurostat frameworks. These widely used approaches offer distinct but valuable insights into regional structures, as discussed by Fadic et al. (2019).

2.2.1. The Eurostat FUA and regional typology

Developed jointly by the OECD and the European Commission, the Functional Urban Area (FUA) classification defines cities and their commuting zones. An FUA includes:

- An urban core: municipality (or contiguous municipalities) with at least 1,500 inhabitants per km^2 and a population over 50,000;
- A commuting zone: adjacent municipalities where 15% of residents commute to the core.

NUTS3 regions are then categorized based on the share of their population within FUAs and accessibility to large urban centres. In our study, we use the classification from Fadic et al. (2019), structured as follows:

Metropolitan Regions (MR): Regions where more than 50% of the population lives within an FUA of at least 250,000 inhabitants. These are further divided into:

- *Large metropolitan regions (MR-L):* Over 50% of the population resides in an FUA with more than 1.5 million inhabitants.
- *Metropolitan regions (MR-M):* Over 50% of the population resides in an FUA with 250,000 to 1.5 million inhabitants.

We group MR-L and MR-M under a single Metropolitan category, since both share high urban density and similar economic dynamics. While distinguishing between large and medium metropolitan areas may be relevant in specific urban studies, it does not fundamentally alter their economic role in regional resilience to COVID19.

2.2.2. OECD's population density-based classification

In contrast to the Eurostat's functional approach, OECD classifies regions based on population density and spatial distribution rather than commuting flows. This typology is based on three criteria ; the identification of rural local unit according to population density: A unit is defined as rural if its population density is below 150 inhabitants per km2 ; the classification of regions according to the percentage of population living in rural local unit as we will explain below ; and the size of the urban centres: the proportion of the population in the urban centre in each unit relatively to the population in the NUTS2 region put this unit, either in rural, intermediate or urban area. This OECD classification lead to three primary categories:

- *Predominantly Urban Regions (3_PU):* Less than 15% of the population lives in rural areas. These are therefore high-Density NUTS3 regions with significant urban cores
- *Intermediate Regions (3_IN):* describe Transitional zones between urban and rural areas. In these areas, between 15% and 50% of the population lives in rural areas.
- *Predominantly Rural Regions (3_PR):* More than 50% of the population resides in rural areas. In this case, we are in face of low-density regions with limited urban influence.

In reality, the OECD urban-rural typology was first established in the early 1990s as a result of work for the Rural Indicators Project of the OECD Rural Development Programme (Fadic et al., 2019). An update was carried out in 2011, in particular to subdivide TL3 rural areas into two sub-categories, rural areas close to towns and remote rural areas, by adding a criterion of distance from urban centres based on a threshold driving time of one hour to the nearest conurbation of 50,000 inhabitants (Brezzi et al., 2011). However, we chose to use the previous classification of areas in our study.

In short, matching the Eurostat and OECD classifications gives us metropolitan areas (MR and 3_PU), urban areas (NMR and 3_IN) and rural areas with Remote and 3_PR.

2.2.3. OECD and Eurostat to classify NUTS3 regions

The table below summarizes the conceptual and methodological differences between the OECD and Eurostat classifications:

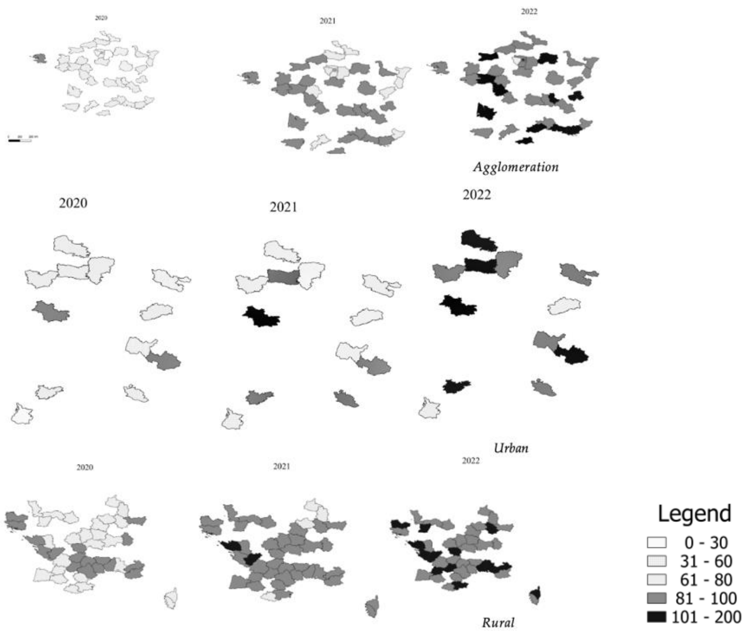
Table 1: Comparison of OECD and Eurostat territorial classifications

Criterion	**Eurostat**	**OECD**
Variable	MR, NMR, Remote	3_PU, 3_IN, 3_PR
Approach	FUA Accessibility	Population Density
Classification mode	based on commuting	density and spatial distribution
Typology Thresholds		
Metropolitan	FUA ≥ 250000 inhabitants	< 15% of pop. in rural areas
Urban	< 60 min from FUA	15% < pop. in rural areas ≤ 50%
Rural	no link with FUA	≥ 50% pop. in rural areas

Using both typologies avoids bias and broadens the view of regional disparities. The OECD scheme rests on population density, whereas Eurostat incorporates functional ties such as commuting and economic links. Combining them clarifies how regions absorb shocks such as COVID19 from a tourism angle and allows comparison across institutional settings.

Table A.1 in the Appendix lists every region under both schemes. The comparison shows marked heterogeneity. Core hubs, Paris, Lyon (Rhône), Marseille (Bouches-du-Rhône), are metropolitan in both systems, yet several territories shift categories: Haute-Garonne, Loire- Atlantique, and Nord are urban for OECD but metropolitan for Eurostat, reflecting different commuting thresholds. Finally, the classification of rural regions also exhibits notable diversity. Regions such as Lozère, Creuse, and Cantal exemplify the strictest definition of rurality, characterized by low population density and weak urban connectivity.

Figure 1: Evolution of tourism resilience across territorial typologies (Eurostat classification) from 2020 to 20222



These divergences confirm that classification cut-offs matter. Employing both frameworks yields a more nuanced, robust picture of territorial structure and its role in regional resilience.

Figure 1, based on Eurostat typology, tracks tourism resilience for metropolitan, urban, and rural areas from 2020 to 2022. Pure white indicates very weak recovery while black dots reflect strong post-COVID over-performance. Metropolitan departments were hit hardest in 2020, but most rebounded in 2021–2022, albeit unevenly. Urban areas show a mixed picture – some quickly regained pre-COVID levels, others still lag. Rural areas are consistently more resilient, largely because they depend less on international tourism and more on domestic, outdoor-oriented, which were favoured during the pandemic due to mobility restrictions and shifting traveller preferences.

To quantify these contrasts, we code territorial typology as a categorical variable, with metropolitan regions as the reference group. This delivers clean, one-to-one comparisons: the coefficients for "urban" and "rural" report their resilience gaps relative to metropolitan hubs. A simple dummy, by contrast, would lump the two non-reference categories together, blurring interpretation.

However, to test the robustness of our results, we also conduct an alternative analysis using a binary variable that takes the value of 1 when a territory belongs to a given typology and 0 otherwise. This second approach allow us to assess the effect of each type of territory relative to all other territories combined. Thus, the first approach will enable us to isolate the effects of other territories in an exclusive comparison with a single reference territory, while the second will serve to measure the relative effect of a given territory compared to all other types of territories grouped together.

2.3. Control variables

In this paper, we also used many control variables which have potentially impacted the post COVID19 tourism recovery. We therefore used firstly the logarithm of *gdp per capita* as an indicator of regional economic conditions in the destination due to it's key role in tourist decision-making (Eugenio-Martin et al., 2008). Indeed, the different economic cycles (positive and negative) that a destination may go through will influence its tourist demand flows and inversely (Croes and Ridderstaat, 2017). Then, we used the logarithm of the cumulative monthly *people vaccinated* in province i for complete vaccine scheme and also for booster vaccines. The expected effect of vaccination coverage on the recovery of tourism is ambiguous. On the one hand, higher vaccination coverage may contribute to the recovery of the tourism industry, while on the other hand it may have no effect on activity (Ram et al., 2022 ; Boto-García and Fran- cisco Baños Pino, 2022). So, we introduce them in our study in order to provide a more precise conclusion on the expected effect of vaccination on our NUTS3 regions. As tourism-specific control variables, we also added to our model a *tourism intensity* variable, which is an indicator of economic dependence on tourism (Silva et al., 2018) ; as well as the monthly *share of domestic and foreign tourists* in each province in 2019. These latter variables were included to take into account both the greater-than-expected impact of restrictions (at borders and in air transport) on foreign tourism compared to domestic tourism (Falk et al., 2023) and the substitution effect of this domestic customer base compared to foreign customers (Curtale et al., 2023). Finally, we used dummy variables to capture an additional effect linked to the geographical characteristics of the destination. We used a dummy variable to capture coastal, mountain and border areas respectively, in order to assess heterogeneity in the resilience of these different NUTS3 regions.

A more detailed presentation of all the variables used in this study, as well as the descriptive statistics can be found in table A.3 in the appendix and table 2 below. Table A.2 in the appendix provides also descriptive statistics for our monthly variables.

Table 2: Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
ln RES_total_I	288	4.4638	0.2100	3.2366	4.7674
ln RES_total_II	288	4.4603	0.2075	3.2160	4.7389
ln RES_resid_I	288	4.5474	0.1374	3.8829	4.7870
ln RES_resid_II	288	4.5370	0.1354	3.8282	4.7702
ln RES_foreign_I	288	4.3262	0.5469	1.7840	5.3968
ln RES_foreign_II	288	4.2674	0.4312	1.8082	4.9346
ln GDP_capita	288	10.3997	0.2028	10.1659	11.0493
ln share_resid_19	288	4.3743	0.1664	3.5291	4.5808
ln share_foreign_19	288	2.8406	0.5974	0.8786	4.6318
intensity_total_19	288	0.2283	0.2031	0.0398	1.4854
ln vaccination	210	11.8019	3.6320	0.0000	14.5115

3. METHOD

As a reminder, the aim of our article is to investigate the link between territorial typology and post COVID19 resilience in French NUTS3 regions. To achieve this, our dataset is constructed as a panel of NUTS3 regions observed annually between 2020 and 2022. While our main estimations rely on annual data, we also conduct robustness checks using monthly data to assess whether our results varied when considering a more finer temporal granularity.

Our empirical strategy is based on an Ordinary Least Squares (OLS) regression with panel-corrected standard errors (PCSE), as introduced by Beck and Katz (1995). This approach adjusts the standard errors of the OLS estimates to account for cross-sectional heteroskedasticity and contemporaneous correlation, thereby improving the reliability of inference. OLS-PCSE is particularly suitable when the number of time periods (T) is small relative to the number of cross-sectional units (N)[2], which aligns with our case with 96 regions (N) observed over three years (T) (Baltagi and Baltagi, 2001; Blackwell III, 2005). Before running the estimations, we conducted several preliminary tests to ensure the robustness of our model specification. Specifically, we performed a Pearson correlation test (available in table A.4 in appendix), ensuring that no strong correlations existed between explanatory variables; Then, we compute stepwise and LASSO regression to refine variable selection and retain only the most relevant predictors, validate our model selection and avoid overfitting. The estimated equation was of the following form:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \sum_{j=1}^{k} \lambda_j Z_{ijt} + \delta_m + \eta_t + \epsilon_{it} \quad (1)$$

where:

- Y_{it} is the tourism resilience dependent variable for NUTS3 region i at year t,

[2] However, when the T is large and the N is smaller, it would be more useful to use FGLS model, first described by Parks (1967), and introduced by Doran and Kmenta (1986) (Baltagi and Baltagi, 2001).

- X_{it} is the main independent variable for NUTS3 region i at time t. They correspond respectively to the typologies of areas commonly used by Eurostat and those adopted by the OECD,

- Z_{ijt} are the set of j control variables for region i at year t ; η_t represents the yearly fixed effects and ϵ_{it} is the error term.

We initially include yearly fixed effects in our model to control for temporal variations. However, incorporating individual fixed effects for each region resulted in major identification issues. Our attempts to introduce these effects through various methods led to the following conclusions: (i) Using the automatic panel fixed effects option systematically absorbed the explanatory power of key variables, yielding insignificant results; (ii) Implementing a Least Squares Dummy Variable (LSDV) approach, where fixed effects were introduced as regional dummies, did not resolve the issue and caused collinearity problems; (iii) Finally, manually generating region-specific fixed effects variables and attempting to remove one unit of them to address multicollinearity also failed to produce reliable estimates. Given these repeated failures, we ultimately retain only yearly fixed effects for main estimates, which help account for macroeconomic shocks and general trends affecting all regions simultaneously.

To further ensure the robustness of our findings, we therefore run Generalised Least Squares (GLS) regressions, as initially proposed by Aitken (1936). This econometric method helps estimate unknown parameters while explicitly controlling for both individual and temporal heterogeneity. Since fixed effects were not feasible in our case, we opted for a random-effects model to account for inter-regional heterogeneities. Random-effects models have also two key advantages. They allow for the estimation of reduced residuals, and they enable the modelling of differentiated regional recovery patterns by incorporating random coefficients. The random model therefore seems better suited to our data, given the different resilience behaviours of tourist destinations. Finally, we corrected our data for heteroskedasticity and autocorrelation. Additionally, we validated the stability of our findings by estimating the model using monthly data, confirming that our results remained robust regardless of the temporal aggregation level.

4. RESULTS

This section presents the results of our analysis on the effect of the territorial structure of the French NUTS3 regions on post-COVID19 tourism recovery. The overall results are presented in the tables 3, 4 and 5 below for the different types of tourist, including the results differentiated between the years 2021 and 2022. Tables A.5 to A.13 in the appendix also present the results of territorial typologies using a binary variable. These not only provide evidence of robustness, but also the effects of belonging to one territory compared with the other two. By doing this, we are trying to ensure that the trend observed in the initial results persists in face of dynamics in the other territories. The effects of territorial composition on tourism resilience are interpreted using the formula $(\exp(\beta x - 1) * 100)$. We firstly present the results of the effects of territorial structures on resilience, then the temporal variations between 2021 and 2022, and finally the role of explanatory variables.

Table 3: Territorial structure and total tourism resilience with reference basis (Dependent variable: ln RES_total_I)

	Dependent variable: ln RES_total_I					
		Eurostat			OECD	
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
2.Rural_I	0.057** (0.019)	0.071** (0.023)	0.032 (0.021)			
3.Urban_I	-0.004 (0.029)	-0.016 (0.043)	-0.017 (0.033)			
2.Rural_II				0.044 (0.051)	0.093 (0.049)	0.050 (0.035)
3.Urban_II				0.067 (0.052)	0.097** (0.035)	0.067** (0.022)
ln gdp_capita	-0.399*** (0.051)	-0.327*** (0.080)	-0.121* (0.058)	-0.324*** (0.080)	-0.211* (0.085)	-0.043 (0.060)
ln vaccination	0.094*** (0.026)	0.070** (0.024)	0.048* (0.020)	0.085*** (0.022)	0.049 (0.027)	0.035 (0.021)
intensity_total_19	0.243* (0.123)	0.269* (0.109)	0.139 (0.072)	0.283* (0.122)	0.277* (0.113)	0.150* (0.073)
ln share_resid_19	0.511* (0.258)	0.683*** (0.178)	0.174 (0.132)	0.583* (0.251)	0.710*** (0.193)	0.198 (0.141)
ln share_foreign_19	-0.004 (0.048)	0.006 (0.039)	0.011 (0.031)	-0.018 (0.050)	0.002 (0.044)	0.008 (0.034)
1.coastal	0.012 (0.019)	0.027 (0.022)	0.010 (0.017)	0.008 (0.021)	0.048* (0.023)	0.022 (0.017)
1.boarder	-0.059* (0.029)	-0.053 (0.030)	-0.023 (0.024)	-0.073** (0.027)	-0.063* (0.028)	-0.031 (0.023)
1.mountain	0.093*** (0.019)	0.074*** (0.021)	0.019 (0.016)	0.083*** (0.020)	0.060** (0.020)	0.009 (0.017)
annual effect	yes	no		yes	no	
cons	5.996*** (1.442)	3.792** (1.445)	4.371*** (1.096)	4.904*** (1.386)	2.704 (1.663)	3.581** (1.235)
Number of obs.	210	96	96	210	96	96
R-squared	0.989	0.658	0.205	0.988	0.651	0.216

Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.

Table 4: Territorial structure and resilience of domestic tourism with reference basis (Dependent variable: ln RES_resid_I)

	Dependent variable: ln RES_resid_I					
		Eurostat			OECD	
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
2.Rural_I	0.031* (0.015)	0.061* (0.024)	0.021 (0.023)			
3.Urban_I	-0.018 (0.027)	-0.001 (0.039)	0.004 (0.033)			
2.Rural_II				0.058* (0.029)	0.092* (0.048)	0.016 (0.039)
3.Urban_II				0.068* (0.027)	0.088* (0.037)	0.029 (0.030)
ln gdp_capita	-0.268*** (0.050)	-0.237** (0.076)	-0.089 (0.054)	-0.184*** (0.050)	-0.139 (0.079)	-0.057 (0.060)
ln vaccination	0.045** (0.017)	0.051* (0.025)	0.035 (0.020)	0.044** (0.016)	0.037 (0.027)	0.024 (0.021)
intensity_total_19	0.216** (0.070)	0.283** (0.087)	0.155* (0.067)	0.244*** (0.069)	0.290** (0.090)	0.159* (0.069)
ln share_resid_19	0.150** (0.162)	0.305** (0.177)	0.187** (0.147)	0.224** (0.162)	0.332** (0.186)	0.195** (0.161)
1.coastal	0.045** (0.015)	0.064** (0.023)	0.030 (0.020)	0.061*** (0.013)	0.081*** (0.024)	0.035 (0.020)
1.boarder	-0.069** (0.022)	-0.073* (0.029)	-0.030 (0.026)	-0.073*** (0.022)	-0.080** (0.027)	-0.034 (0.025)
1.mountain	0.083*** (0.018)	0.072*** (0.021)	0.026 (0.017)	0.079*** (0.017)	0.061** (0.020)	0.020 (0.018)
annual effect	yes	no		yes	no	
cons	6.457*** (1.116)	4.792*** (1.404)	4.074*** (1.125)	5.219*** (1.123)	3.783* (1.667)	3.846** (1.340)
Number of obs.	210	96	96	210	96	96
R-squared	0.989	0.450	0.291	0.989	0.451	0.293

Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.

Table 5: Territorial structure and resilience of foreign tourism with reference basis (Dependent variable: ln RES_foreign_I)

	Dependent variable: ln RES_foreign_I					
		Eurostat			OECD	
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
2.Rural_I	0.436*** (0.088)	0.209** (0.103)	0.132** (0.061)			
3.Urban_I	0.178* (0.097)	0.026 (0.039)	0.001 (0.080)			
2.Rural_II				0.058* (0.029)	0.139 (0.232)	0.016 (0.039)
3.Urban_II				0.220 (0.187)	0.259 (0.190)	0.072 (0.087)
ln gdp_capita	-0.268*** (0.050)	-0.237** (0.076)	-0.089 (0.054)	-0.184*** (0.050)	-0.139 (0.079)	-0.057 (0.060)
ln vaccination	0.045** (0.017)	0.051* (0.025)	0.035 (0.020)	0.044** (0.016)	0.037 (0.027)	0.024 (0.021)
intensity_total_19	0.216** (0.070)	0.283** (0.087)	0.155* (0.067)	0.244*** (0.069)	0.290** (0.090)	0.159* (0.069)
ln share_foreign_19	0.431*** (0.075)	0.354** (0.106)	0.251** (0.059)	0.393*** (0.082)	0.343** (0.114)	0.241*** (0.066)
1.coastal	0.045** (0.015)	0.064** (0.023)	0.030 (0.020)	0.061*** (0.013)	0.081*** (0.024)	0.035 (0.020)
1.boarder	-0.069** (0.022)	-0.073* (0.029)	-0.030 (0.026)	-0.073*** (0.022)	-0.080** (0.027)	-0.034 (0.025)
1.mountain	0.083*** (0.018)	0.072*** (0.021)	0.026 (0.017)	0.079*** (0.017)	0.061** (0.020)	0.020 (0.018)
annual effect	yes	no		yes	no	
cons	6.457*** (1.116)	4.792*** (1.404)	4.074*** (1.125)	5.219*** (1.123)	3.783* (1.667)	3.846** (1.340)
Number of obs.	210	96	96	210	96	96
R-squared	0.989	0.450	0.291	0.989	0.451	0.293

Standard errors in parentheses. * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

4.1. Impact of territorial typologies on tourism resilience

The analysis highlights significant differences between territories in terms of tourism resilience, depending on the classification used. Metropolitan regions seem to be the most affected by the crisis, confirming the disproportionate impact of the pandemic on densely populated urban centres, where specific events, business and luxury tourism predominate. These tourism segments, highly dependent on international travel and in-person events, suffered a major contraction due to travel restrictions and the rise of teleworking, reducing the need for business-related physical travel (Curtale et al., 2023). For example, tourism resilience of urban regions is approximately 7% upper than that of metropolitan regions if we consider OECD classification.

Conversely, rural regions appear to be the most resilient, with overall better performance due to their increased attractiveness for outdoor and domestic travel. Rural areas benefited mainly from the rise of domestic and proximity tourism. In response to travel restrictions and health concerns, tourists favoured natural, remote destinations, offering a viable alternative to densely populated destinations. The total resilience for rural regions is around 6% better compared to metropolitan regions according to Eurostat typology, with the same trend for OECD components although insignificant. This effect is much greater when we analyse the resilience of foreign tourism, with a recovery around 40% greater in rural areas than in metropolitan areas. As for urban areas, we are seeing mixed trends. On the one hand, the urban areas in the Eurostat classification seem to have a resilience almost similar to that of metropolitan areas. By way of illustration, their total resilience is only 0.4% less than that of metropolitan areas, while the difference is 2% for domestic tourism. These effects are notably non-significant, confirming the relative similarity between these two areas. On the other hand, the regions considered as urban by the OECD show a much greater resilience than their metropolitan counterparts. They show improvements of around 7% in terms of total and domestic tourism resilience. Finally, it is worth highlighting the much greater effect of these regions on the resilience of foreign tourism. Whatever the typology considered, metropolitan regions were around 18% less resilient than their urban counterparts.

The results of our various robustness tests confirm the relevance of our main results. The general trends remain broadly unchanged. Metropolitan areas appear to be the most vulnerable to the shock of the pandemic, as do urban areas to a lesser extent. The latter are showing gradual resilience, while rural areas are confirming their better performance in the post-COVID19 recovery. Our results therefore remain robust to a change in the dependent variable and the variable of interest, but also in the empirical method and the temporality of our data.

4.2. Temporal evolution of territorial effects (2021-2022)

Understanding how resilience evolved over time helps identify recovery trajectories and persistent vulnerabilities into French regions. In this context, the post-pandemic trends provide insight into the differentiated recovery trajectories across territories and the results show a progressive recovery and structural changes between areas.

In 2021, metropolitan areas continued to exhibit low resilience compared to urban and rural areas, especially due to the permanent drawbacks of pandemic on business tourism and international conferences. Indeed, the normalization of remote work hindered the recovery of in-person business travel, the slow return of international travel also reduced demand for business travel reinforcing structural changes in travel demand (Duro, Perez-Laborda, and Fernandez, 2022). Then, in 2022, the reopening of international borders contributed to a better recovery of foreign tourists. Predominantly urban regions experienced a 7% greater recovery in tourism than intermediate regions, while the effect was weak and insignificant for predominantly rural areas. Tourism recovery levels therefore appear to be similar between metropolitan and rural areas this year notably due to restarting of international mobility.

In 2021, urban areas saw gradual improvements, benefiting from increased domestic tourism and growing interest in mid-sized cities. In fact, urban areas benefited from an improvement in proximity tourism and a faster normalization of tourism demand, driven by the return of city breaks and leisure tourism. By 2022, the recovery trend between urban and metropolitan areas reverses and seems to be neutralised, in line with the explanations given above.

Rural areas displayed strong resilience in 2021, with a continuation of this trend into 2022. This resilience reflects the sustained demand for proximity and nature tourism, which has become a viable alternative for many travellers. For example, in 2021, rural regions exhibited a 7% improvement in total tourism resilience compared to metropolitan areas. In short, rural areas maintained stable performance, confirming a lasting transformation in travel preferences favouring proximity tourism and alternative and nature-based tourism. Then, in 2022, rural territories display a 3% increase in total tourism resilience compared to metropolitan areas.

4.3. The role of explanatory variables in resilience dynamics

The control variables also provide crucial insights into resilience dynamics. The effect of GDP per capita is particularly noteworthy and presents heterogeneous results across territorial typologies and tourism segments. One might have expected wealthier destinations to be more resilient. However, in our case, a high GDP could indicate diversified economies (industry, services, finance, etc.) meaning that tourism is less central to the economic dynamic. As a result, tourism recovery could be weaker in these areas. This finding could also be attributed to the higher concentration of vulnerable tourism segments, such as business and luxury tourism, which have undergone significant structural adaptations post-pandemic (Duro, Perez-Laborda, and Fernandez, 2022). Then, and in line with the main results, tourists seem to have preferred rural or remote areas, which in most cases are the least wealthy NUTS3 regions. As example, an improvement of 1% in GDP per capita lead to a 0.4% decline in total tourism resilience, 0.3% decrease in resilience of domestic and foreign tourism.

Coastal regions exhibit a positive resilience effect, while border regions show a negative coefficient, corresponding to a 5.9% decrease in resilience. The latter result aligns with mobility restrictions imposed at national borders during the pandemic, which limited access to cross- border tourism markets. Thus, border areas have been negatively affected by restrictions on travel by domestic tourists and positively affected by the upturn in foreign mobility and proximity tourism, which has enabled international visitors to remain active in these areas in 2022. Furthermore, the NUTS3 regions along the coast have shown a strong recovery in tourism from residents in 2021 and 2022 after the major confinements of 2020. In addition, the mountain regions are mostly located in rural areas and have welcomed a large number of national tourists throughout this period of crisis.

Vaccination coverage has also had a major impact on the recovery in tourism, with a 9% recovery in tourism following a 10% increase in vaccination coverage. Similarly, regions with higher pre-pandemic tourism intensity experience 2.4% greater resilience following an increase of 0.1 point of tourism intensity. This finding suggests that well-established tourist destinations benefited from an accelerated recovery, possibly due to greater adaptability, stronger infra-structure, and a pre-existing demand base (Curtale et al., 2023).

5. DISCUSSION

The results of this study highlight the differentiated territorial dynamics in post COVID19 tourism resilience, emphasizing the importance of local specificities and the tourism structures of destinations. These differences can be explained not only by the type of customer base targeted before the pandemic but also by the ability of territories to adapt to new constraints and opportunities. The comparative analysis of different territorial types shows that metropolitan areas were the most severely affected by the health crisis, while rural and intermediate regions demonstrated relatively greater resilience. This observation is primarily due to the structure of the tourism supply specific to each category. In large cities, business, events and luxury tourism constitute a significant portion of the tourism industry, which sharply declined during the pandemic (Gössling et al., 2020). Additionally, these areas were particularly vulnerable to health restrictions and the widespread adoption of remote work (Brouder, 2020). Conversely, rural areas benefited from a renewed interest in outdoor activities and nature-based tourism, which were less dependent on international travel (Gössling et al., 2020). These results align with the work of Hall and Williams (2019), which demonstrated that territories highly integrated into global tourism value chains are more exposed to external shocks. These findings refine our understanding of territorial disparities during crises and underscore the need for a differentiated approach in public policies and tourism sector support strategies.

One of the key contributions of this study lies in its differentiation between the immediate post-crisis rebound in 2021 and the more structural adjustments observed in 2022. The results highlight that while agglomeration and urban areas initially struggled to recover, their trajectory in 2022 suggests a gradual adaptation, possibly due to the return of international tourism and the partial recovery of business travel. In contrast, rural areas, which benefitted from a surge in domestic tourism in 2021, exhibit a relative stabilization in 2022, as international tourists gradually returned to metropolitan and urban centres for a part of them. Vaccination seems to play a key role on this differentiation. Its effect on resilience was significant in 2021, mitigating the impact of restrictions on travel, but appears less pronounced in 2022 as the global population reached higher immunization rates. Furthermore, the shift from domestic to international tourism between 2021 and 2022 reveals important implications for resilience strategies. The results indicate that regions highly dependent on domestic travellers performed well in the immediate aftermath of the crisis but faced a plateau in 2022, whereas those historically reliant on international visitors experienced a delayed but start to recover.

The dichotomy between domestic and international tourism is also a key factor in explaining the varying trajectories of tourism recovery across territories. Domestic tourism acted as a buffer against the crisis, allowing some regions to regain acceptable levels of visitation more quickly (World Tourism Organization, 2021). In contrast, excessive dependence on international flows hindered resilience. Indeed, international arrivals declined significantly, particularly affecting areas that rely heavily on this type of tourism, such as agglomeration and urban territories. Domestic tourism, although impacted, demonstrated greater resilience in certain cases. Restrictions on international travel led some tourists to shift toward local destinations, revitalizing activities in rural areas and less-visited regions. From this perspective, destinations with an offer tailored to domestic tourists performed better. Domestic tourism benefited from greater flexibility, with travellers opting for nearby destinations, while international trips were often subject to quarantines and strict health requirements (Gössling et al., 2020). In the same vein, coastal regions, mountain resorts, and rural areas benefited from the shift in tourism demand toward more accessible destinations during travel restrictions (Baum and Hai, 2020). The crisis thus reinforced the role of domestic markets as key stabilizers of the tourism economy (Brouder, 2020). These insights are also particularly crucial for post-pandemic tourism planning as they suggest that development strategies should incorporate resilience mechanisms that ensure a balance between domestic and international tourism.

One of the major takeaways from this study is the necessity to diversify tourism offerings at the regional level to mitigate future shocks and enhance the resilience of destinations. As part of the resilience of tourist destinations, the diversification of the structure of tourism supply appears to be a key strategy for strengthening the capacity to absorb shocks. Given the organizational structure of the tourism sector in many countries, such as France, Destination Management Organizations (DMOs) have the ability to leverage a territorial diversity that of- ten remains underused. In this context, these DMOs should consider diversifying the tourism offer to mitigate the negative impacts of a shock by increasing the promotion of one market segment when another is hindered, as was the case with COVID19 in densely populated urban areas (Curtale et al., 2023). Since different tourism areas cater to specific types of tourism, DMOs could minimize their reliance on a single segment or season by developing a more balanced tourism portfolio. Destinations offering a combination of cultural, natural, event-based, and agritourism experiences, for example, could attract diverse visitor profiles throughout the year, thus stabilizing revenues and balancing tourist flows. Moreover, diversification also plays a crucial role in reducing the seasonality of tourism, which is often a source of economic vulnerability. By offering a variety of experiences, such as fostering cultural events outside peak periods, destinations can smooth fluctuations in demand and secure a more stable revenue stream over time. Further diversification efforts could include investing in new tourism infrastructure and services, fostering innovation, and promoting niche tourism segments such as eco-tourism and adventure tourism (Marson et al., 2011).

Finally, this study underscores the importance of proximity tourism as a resilience driver during crises. Proximity tourism, encompassing both domestic and neighbouring international tourists, reduces reliance on long-haul visitors and facilitates a more stable recovery of local tourism activities following an external shock. This phenomenon, often referred to as "staycation"[3] has reinforced the role of domestic tourism in stabilizing tourism revenues. The closure of borders has notably led to a return to domestic tourism and trips to visit friends and relatives (Baum and Hai, 2020). Beyond the short term, the crisis has accelerated a structural transformation in traveller behaviour. Growing environmental concerns and the volatility of health conditions are increasingly encouraging tourists to favour closer, more flexible destinations offering immersive experiences (Zenker and Kock, 2020). Political initiatives, notably the establishment of the Schengen Area, have significantly eliminated mobility barriers within Europe, thereby expanding the international potential for proximity tourism (Scott and Gössling, 2015). This trend represents an opportunity for intermediate and rural regions, which can leverage a strategy centered on heritage conservation and natural environment valorization to attract evolving tourism demand. Despite the attractiveness of proximity visitors due to the decline of air travel (Yin et al., 2015; Romagosa, 2020), there

[3] The concept of "staycation", a blend of stay and vacation, refers to spending one's vacation at home or nearby rather than traveling far from home.

is an increasing environmental awareness leading to changes in mobility behaviour, with a shift toward more sustainable modes of transport such as trains. The role of railway infrastructure is particularly crucial in this transformation, as improved rail connectivity can facilitate access to alternative tourist destinations while promoting more sustainable tourism practices. Investments in high-speed and regional rail networks can strengthen the attractiveness of domestic and proximity tourism by offering convenient and eco-friendly alternatives to air travel (Sun et al., 2024). The aftermath of the pandemic appears to be fostering discussions on domestic tourism and the sustainability of the tourism industry, presenting a valuable opportunity for the growth of proximity tourism (Gössling et al., 2020). As people increasingly opt for closer travel, either due to restrictions or a heightened awareness of the environmental and societal impacts of long-distance journeys, proximity tourism is expected to expand. This shift will, in turn, enhance the resilience of tourist destinations.

CONCLUSION

The impact of the COVID19 pandemic on the global tourism industry has generated a vast body of literature exploring the factors influencing tourism recovery (Duro, Perez-Laborda, and Fernandez, 2022). In this context, this paper investigates the role of territorial typologies in shaping the post-pandemic recovery of tourism in the NUTS3 French regions between 2020 and 2022. Given the structural heterogeneity of tourist destinations, examining this issue within the French context provides valuable insights (Goeldner and Ritchie, 2007).

Our findings reveal that metropolitan and intermediate regions (predominantly urban or those close to metropolitan areas) experienced a slower recovery in tourism demand, while more remote regions demonstrated a relatively stronger rebound. This trend persisted throughout the post-crisis period. These results confirm a behavioural shift in tourist preferences, favouring rural and environmentally friendly tourism, while also reflecting structural changes induced by economic conditions and mobility restrictions imposed to mitigate the spread of COVID19. More broadly, the findings highlight the intrinsic vulnerability of tourism to both exogenous and endogenous shocks, emphasizing the necessity for tourism stakeholders to adapt their offerings in response to evolving constraints and traveller behaviour.

Future research should extend this analysis to a broader set of tourist destinations, both within and beyond France, to explore potential spatial heterogeneities in resilience dynamics. Additionally, the COVID19 crisis underscores the need to develop a comprehensive framework for assessing the competitiveness and resilience of tourism destinations. Such a model would enable policymakers and industry stakeholders to identify key determinants of resilience and implement targeted strategies to mitigate the impact of future exogenous shocks. It is important to acknowledge that no universal strategy can shield all destinations from crises, as each region's vulnerability is shaped by a unique combination of factors (Curtale et al., 2023).

Despite its contributions, this study has certain limitations. Firstly, data constraints prevented the inclusion of key variables such as regional tourism revenues, business support measures during the pandemic, and transport infrastructure (e.g., land and rail networks). Secondly, the lack of granular data on mobility patterns and intra-regional travel flows limited the depth of our analysis. Finally, it is important to acknowledge another limitation related to the chosen scale of analysis. The NUTS3 level, corresponding to French departments, represents a relatively broad administrative unit, often combining urban, peri-urban, and rural areas. This internal heterogeneity may smooth over localized dynamics and hinder a more nuanced understanding of how the tourism sector was affected by the COVID19 crisis. While this issue is partly addressed by the combined use of Eurostat and OECD territorial typologies, both of which offer complementary perspectives on regional structures, it still calls for caution in interpreting and generalizing the results. Future research conducted at finer spatial scales, such as intercommunal structures or urban units, could extend this analysis by offering a more granular view of the mechanisms underpinning tourism resilience. Nonetheless, this study provides empirical evidence of a critical determinant of tourism recovery and offers actionable insights for policymakers and tourism professionals seeking to foster a more sustainable and resilient post-pandemic tourism landscape.

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ANNEX

Table A.1: Typology of regions according to Eurostat and OECD classifications

Typology	Eurostat	OECD
Métropolitan	**Alpes-Maritimes**, Bas-Rhin, **Bouches-du-Rhône**, Calvados, Côte-d'Or, Doubs, **Essonne**, Finistère, Gard, **Gironde**, Haut-Rhin, **Haute-Garonne**, Haute-Savoie, Haute-Vienne, **Hauts-de-Seine**, Hérault, Ille-et-Vilaine, Indre-et-Loire, Isère, Loire, **Loire-Atlantique**, Loiret, Maine-et-Loire, Marne, Meurthe-et-Moselle, **Nord**, **Paris**, Puy-de-Dôme, Pyrénées-Atlantiques, Pyrénées-Orientales, **Rhône**, Sarthe, Seine-Maritime, **Seine-Saint-Denis**, Seine-et-Marne, Somme, **Val-d'Oise**, **Val-de-Marne**, Var, Vienne, **Yvelines**.	**Alpes-Maritimes**, **Bouches-du-Rhône**, **Essonne**, **Gironde**, **Haute-Garonne**, **Hauts-de-Seine**, **Loire- Atlantique**, **Nord**, **Paris**, **Rhône**, **Seine-Saint-Denis**, **Val-d'Oise**, **Val-de-Marne**, **Yvelines**.
Urban	Ain, Aisne, Eure, Haute-Saône, Hautes-Pyrénées, Loir-et- Cher, **Moselle**, **Oise**, **Pas-de-Calais**, **Savoie**, Tarn-et-Garonne, **Territoire de Belfort**, **Vaucluse**.	Aube, Bas-Rhin, Calvados, Côte-d'Or, Doubs, Gard, Haut-Rhin, Haute-Savoie, Hérault, Ille-et-Vilaine, Indre-et-Loire, Isère, Loire, Loiret, Maine-et-Loire, Marne, Meurthe-et- Moselle, **Moselle**, **Oise**, **Pas-de-Calais**, Puy-de-Dôme, Pyrénées-Atlantiques, Pyrénées-Orientales, **Savoie**, Seine- Maritime, Seine-et-Marne, **Territoire de Belfort**, Var, **Vaucluse**.
Rural	**Allier, Alpes-de-Haute-Provence, Ardennes, Ardèche, Ariège**, Aube, **Aude, Aveyron, Cantal, Charente, Charente-Maritime, Cher, Corrèze, Corse-du-Sud, Creuse, Côtes-d'Armor, Deux-Sèvres, Dordogne, Drôme, Eure-et-Loir, Gers, Haute-Corse, Haute-Loire, Haute-Marne**, Hautes-Alpes, **Indre, Jura, Landes, Lot, Lot-et-Garonne, Lozère, Manche, Mayenne, Meuse, Morbihan, Nièvre, Orne, Saône-et-Loire, Tarn, Vendée, Vosges, Yonne**.	Ain, Aisne, **Allier, Alpes-de-Haute-Provence, Ardennes, Ardèche, Ariège, Aude, Aveyron, Cantal, Charente, Charente-Maritime, Cher, Corrèze, Corse-du-Sud, Creuse, Côtes-d'Armor, Deux-Sèvres, Dordogne, Drôme**, Eure, **Eure-et-Loir**, Finistère, **Gers, Haute-Corse, Haute-Loire, Haute-Marne**, Haute-Saône, Haute-Vienne, Hautes-Alpes, Hautes-Pyrénées, **Indre, Jura, Landes**, Loir-et-Cher, **Lot, Lot-et-Garonne, Lozère, Manche, Mayenne, Meuse, Morbihan, Nièvre, Orne**, Sarthe, **Saône-et-Loire**, Somme, **Tarn**, Tarn-et-Garonne, **Vendée, Vienne, Vosges, Yonne**.

Table A.2: Summary statistics of monthly variables

Variable	Obs.	Mean	Std. dev.	Min	Max
ln RES_total_I	3,456	4.496461	0.2344529	2.124198	5.070596
ln RES_resid_I	3,456	4.558755	0.1789306	3.13796	5.114952
ln RES_foreign_I	3,696	4.42679	0.6008636	-1.050448	6.489711
ln vaccination	2,994	12.26031	1.833029	0	14.51191
ln vacc_rappel	2,328	11.86059	2.233031	0	14.27139
ln gdp_cap_a	3,456	10.39965	0.2024687	10.16585	11.0493
intensite_resid_19	3,072	0.1754488	0.142574	0.0293646	1.822489
intensite_foreign_19	2,892	0.0706537	0.1412636	0.0014693	1.22289
ln share_resid_19	3,072	4.35743	0.1873388	3.251428	4.587857
coastal	4,608	0.2291667	0.4203423	0	1
boarder	4,608	0.1875	0.3903547	0	1
mountain	4,608	0.3020833	0.459211	0	1

Table A.3: Detailed description of variables

Variable	Description	Source
ln RES_total ln RES_resid ln RES_foreign	Logarithm of Resilience in total tourist activities Logarithm of resilience in resident tourist activities Logarithm of resilience in foreign tourist activities	Own calculation
MR NMR Remote	Metropolitan area, region with a FUA > 250k inhabitants Urban area, region near a FUA > 50K inhabitants Remote area, remote from a FUA	Fadic et al. (2019)
3PU 3INC 3PR	Predominantly urban TL3 region Intermediate TL3 region Predominantly rural TL3 region	OECD classification
ln gdp_capita ln vaccination ln vacc rappel intensity_resid_19 intensity_foreign_19 share_resid_19 coastal boarder mountain	Logarithm of GDP per capita by region Logarithm of people fully vaccinated by province Logarithm of people with a booster of vaccine Pre-COVID19 tourist intensity for residents Pre-COVID19 tourist intensity for foreigners Share of domestic tourists in total tourist prior pandemic 1 if region is a coastal area 1 if region is a boarder area 1 if region is a mountain area	Eurostat OWID Own calculation

Table A.4: Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) RES_total_I	1							
(2) RES_resid_I	0.8868*	1						
(3) RES_foreign_I	0.2843*	0.1272*	1					
(4) gdp_capita	-0.3104*	-0.2694*	0.3096*	1				
(5) intensity_total_19	-0.0835	0.0697	0.0026	0.3397*	1			
(6) share_resid_19	0.2794*	0.1310*	-0.1407*	-0.5395*	-0.6897*	1		
(7) share_foreign_19	-0.2846*	-0.1499*	0.2807*	0.4235*	0.4694*	-0.8316*	1	
(8) vaccination	0.4774*	0.4035*	0.2609*	-0.0425	-0.0671	0.0083	-0.0467	1

*Note: * indicates significance at 5%. R stands for Res_ while S for Share_.*
All variables are expressed in logarithm except for the tourism intensity variable.

Table A.5: Territorial Structure and COVID19 resilience in Metropolitan areas without reference basis (Dependent variable: ln RES_total)

	Dependent variable: ln_RES_total					
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
1.MR	-0.036* (0.017)	-0.031 (0.023)	-0.010 (0.019)			
1._3PU				-0.062 (0.051)	-0.097** (0.035)	-0.066** (0.022)
ln_gdp_capita	-0.382*** (0.053)	-0.296*** (0.086)	-0.103 (0.060)	-0.322*** (0.079)	-0.211* (0.084)	-0.044 (0.059)
ln_vaccination	0.086*** (0.025)	0.049* (0.024)	0.036 (0.019)	0.081*** (0.020)	0.051* (0.021)	0.043* (0.017)
intensity_total_19	0.259* (0.125)	0.268* (0.117)	0.139 (0.075)	0.277* (0.127)	0.277* (0.114)	0.150* (0.074)
ln_share_resid_19	0.521* (0.265)	0.668*** (0.187)	0.167 (0.136)	0.578* (0.254)	0.711*** (0.192)	0.201 (0.138)
ln_share_foreign_19	-0.010 (0.051)	-0.008 (0.042)	0.003 (0.032)	-0.005 (0.051)	0.003 (0.042)	0.012 (0.031)
1.coastal	0.020 (0.021)	0.042 (0.023)	0.019 (0.017)	0.023 (0.024)	0.048* (0.023)	0.021 (0.017)
1.boarder	-0.075* (0.035)	-0.064* (0.030)	-0.029 (0.024)	-0.067** (0.025)	-0.063* (0.027)	-0.029 (0.023)
1.mountain	0.094*** (0.023)	0.069*** (0.020)	0.016 (0.016)	0.075*** (0.018)	0.061** (0.019)	0.012 (0.016)
annual effect	yes	no		yes	no	
_cons	5.828*** (1.460)	3.889** (1.509)	4.404*** (1.130)	4.931*** (1.371)	2.771 (1.634)	3.530** (1.194)
Number of obs.	210	96	96	210	96	96
R-squared	0.988	0.635	0.277	0.988	0.651	0.212

*Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.*

Table A.6: Territorial Structure and COVID19 resilience in Metropolitan areas without reference basis (Dependent variable: ln RES_resid)

	Dependent variable: ln_RES_resid					
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
1.MR	-0.020 (0.012)	-0.040 (0.021)	-0.016 (0.019)			
1._3PU				-0.062* (0.028)	-0.085* (0.035)	-0.023 (0.031)
ln_gdp_capita	-0.258*** (0.047)	-0.221** (0.076)	-0.093 (0.054)	-0.198*** (0.049)	-0.150* (0.073)	-0.074 (0.060)
ln_vaccination	0.040** (0.015)	0.038 (0.023)	0.033 (0.020)	0.046** (0.015)	0.033 (0.022)	0.029 (0.018)
intensity_resid_19	0.428*** (0.092)	0.425** (0.140)	0.227* (0.111)	0.432*** (0.104)	0.416** (0.132)	0.224* (0.110)
ln_share_resid_19	0.074 (0.068)	0.092 (0.092)	-0.009 (0.077)	0.111 (0.074)	0.093 (0.095)	-0.009 (0.080)
1.coastal	0.052*** (0.014)	0.073** (0.024)	0.030 (0.020)	0.060*** (0.015)	0.079*** (0.024)	0.032 (0.020)
1.boarder	-0.069** (0.022)	-0.077** (0.029)	-0.027 (0.026)	-0.063** (0.021)	-0.075** (0.028)	-0.027 (0.026)
1.mountain	0.067*** (0.016)	0.064** (0.020)	0.023 (0.017)	0.067*** (0.019)	0.056** (0.020)	0.021 (0.017)
annual effect	yes	no		yes	no	
_cons	6.664*** (0.663)	5.850*** (1.021)	5.147*** (0.809)	5.887*** (0.669)	5.180*** (1.150)	4.993*** (0.910)
Number of obs.	210	96	96	210	96	96
R-squared	0.989	0.426	0.282	0.989	0.441	0.282

*Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.*

Table A.7: Territorial Structure and COVID19 resilience in Metropolitan areas without reference basis (Dependent variable: ln RES_foreign)

			Dependent variable:	ln_RES_foreign		
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
1.MR	-0.142** (0.046)	-0.139 (0.092)	-0.075 (0.050)			
1._3PU				0.310** (0.097)	0.287 (0.193)	0.086 (0.088)
ln_gdp_capita	1.371*** (0.180)	1.359*** (0.394)	0.733*** (0.201)	1.064*** (0.189)	1.085** (0.411)	0.646** (0.196)
intensity_foreign_19	-1.054*** (0.178)	-1.188* (0.476)	-0.412 (0.248)	-0.996*** (0.154)	-1.191** (0.447)	-0.421 (0.239)
ln_vacc_rappel	-0.132*** (0.037)	-0.140 (0.091)	-0.025 (0.054)	-0.263*** (0.037)	-0.255** (0.083)	-0.073 (0.050)
1.coastal	0.083 (0.049)	0.079 (0.109)	0.026 (0.055)	0.086 (0.046)	0.081 (0.103)	0.029 (0.053)
1.boarder	0.222*** (0.055)	0.284* (0.113)	0.161* (0.063)	0.214*** (0.056)	0.268* (0.113)	0.156* (0.063)
1.mountain	0.047 (0.049)	0.009 (0.099)	0.013 (0.060)	0.043 (0.053)	0.006 (0.102)	0.009 (0.062)
annual effect	yes		no	yes	no	
_cons	-8.352*** (1.808)	-8.154* (3.958)	-2.792 (1.983)	-3.678 (2.054)	-4.007 (4.363)	-1.304 (2.068)
Number of obs.	192	96	96	192	96	96
R-squared	0.987	0.230	0.299	0.988	0.241	0.296

*Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.*

Table A.8: Territorial Structure and COVID19 resilience in Urban areas without reference basis (Dependent variable: ln RES_total)

	Dependent variable: ln_RES_total					
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
1.NMR	-0.020 (0.029)	-0.050 (0.046)	-0.032 (0.035)			
1._3INC				0.045 (0.027)	0.037 (0.025)	0.035* (0.016)
ln_gdp_capita	-0.413*** (0.055)	-0.319*** (0.081)	-0.117* (0.058)	-0.347*** (0.063)	-0.266** (0.092)	-0.072 (0.063)
ln_vaccination	0.076*** (0.021)	0.036 (0.020)	0.032* (0.015)	0.072** (0.024)	0.025 (0.022)	0.022 (0.016)
intensity_total_19	0.256* (0.129)	0.259* (0.113)	0.135 (0.073)	0.281* (0.120)	0.269* (0.112)	0.145* (0.073)
ln_share_resid_19	0.519* (0.262)	0.663*** (0.184)	0.166 (0.134)	0.562* (0.257)	0.673*** (0.191)	0.178 (0.138)
ln_share_foreign_19	-0.005 (0.050)	-0.003 (0.042)	0.007 (0.032)	-0.026 (0.050)	-0.014 (0.044)	-0.001 (0.033)
1.coastal	0.013 (0.020)	0.038 (0.022)	0.015 (0.016)	0.001 (0.022)	0.048* (0.023)	0.022 (0.017)
1.boarder	-0.076* (0.031)	-0.059* (0.030)	-0.026 (0.024)	-0.074* (0.029)	-0.069* (0.029)	-0.033 (0.022)
1.mountain	0.087*** (0.021)	0.067** (0.021)	0.016 (0.016)	0.077*** (0.018)	0.058** (0.020)	0.007 (0.017)
annual effect	yes	no		yes	no	
_cons	6.126*** (1.458)	4.309** (1.456)	4.597*** (1.086)	5.285*** (1.407)	3.867* (1.545)	4.207*** (1.137)
Number of obs.	210	96	96	210	96	96
R-squared	0.988	0.641	0.191	0.988	0.639	0.202

*Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.*

Table A.9: Territorial Structure and COVID19 resilience in Urban areas without reference basis (Dependent variable: ln RES_resid)

	Dependent variable: ln_RES_resid					
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
1.NMR	-0.031 (0.028)	-0.026 (0.041)	-0.002 (0.033)			
1._3INC				0.022 (0.020)	0.021 (0.023)	0.016 (0.017)
ln_gdp_capita	-0.271*** (0.048)	-0.235** (0.077)	-0.095 (0.054)	-0.247*** (0.051)	-0.204* (0.082)	-0.079 (0.058)
ln_vaccination	0.035* (0.014)	0.019 (0.020)	0.025 (0.016)	0.030* (0.015)	0.012 (0.021)	0.020 (0.016)
intensity_resid_19	0.418*** (0.098)	0.397** (0.135)	0.219* (0.110)	0.422*** (0.101)	0.405** (0.137)	0.220* (0.110)
ln_share_resid_19	0.073 (0.073)	0.081 (0.089)	-0.011 (0.078)	0.093 (0.076)	0.099 (0.097)	-0.004 (0.081)
1.coastal	0.057*** (0.016)	0.073** (0.023)	0.031 (0.020)	0.055*** (0.015)	0.079*** (0.023)	0.033 (0.020)
1.boarder	-0.060* (0.023)	-0.075* (0.029)	-0.028 (0.025)	-0.072** (0.025)	-0.080** (0.029)	-0.030 (0.025)
1.mountain	0.066*** (0.016)	0.061** (0.021)	0.022 (0.017)	0.062** (0.020)	0.056** (0.021)	0.018 (0.018)
annual effect	yes	no		yes	no	
_cons	6.803*** (0.695)	6.283*** (0.990)	5.272*** (0.793)	6.448*** (0.733)	5.960*** (1.086)	5.128*** (0.834)
Number of obs.	210	96	96	210	96	96
R-squared	0.989	0.419	0.278	0.989	0.418	0.283

*Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.*

Table A.10: Territorial Structure and COVID19 resilience in Urban areas without reference basis (Dependent variable: ln RES_foreign)

	Dependent variable: ln_RES_foreign					
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
1.NMR	0.025 (0.053)	-0.004 (0.140)	-0.014 (0.089)			
1._3INC				-0.133* (0.058)	-0.127 (0.114)	-0.026 (0.054)
ln_gdp_capita	1.342*** (0.177)	1.334*** (0.393)	0.715*** (0.200)	1.220*** (0.188)	1.243** (0.410)	0.702*** (0.210)
intensity_foreign_19	-0.989*** (0.164)	-1.172* (0.468)	-0.408 (0.239)	-0.993*** (0.163)	-1.194* (0.465)	-0.414 (0.242)
ln_vacc_rappel	-0.204*** (0.027)	-0.208** (0.068)	-0.059 (0.043)	-0.162*** (0.033)	-0.166* (0.083)	-0.052 (0.048)
1.coastal	0.090 (0.049)	0.090 (0.103)	0.029 (0.053)	0.080 (0.047)	0.073 (0.103)	0.028 (0.054)
1.boarder	0.199*** (0.057)	0.276* (0.114)	0.159* (0.063)	0.221*** (0.056)	0.299** (0.114)	0.162** (0.062)
1.mountain	0.036 (0.053)	-0.007 (0.101)	0.005 (0.062)	0.069 (0.057)	0.023 (0.109)	0.011 (0.064)
annual effect	yes		no	yes		no
_cons	-7.242*** (1.765)	-7.127 (3.979)	-2.200 (1.988)	-6.442*** (1.805)	-6.658 (4.011)	-2.148 (2.035)
Number of obs.	192	96	96	192	96	96
R-squared	0.986	0.221	0.190	0.987	0.231	0.191

*Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.*

Table A.11: Territorial Structure and COVID19 resilience in Rural areas without reference basis (Dependent variable: ln RES_total)

	Dependent variable: ln_RES_total					
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
1.REMOTE	0.059** (0.020)	0.078* (0.032)	0.040* (0.026)			
1._3PR				0.015 (0.020)	0.001 (0.034)	0.015 (0.024)
ln_gdp_capita	-0.398*** (0.052)	-0.322*** (0.082)	-0.117* (0.058)	-0.406*** (0.056)	-0.299*** (0.086)	-0.104 (0.061)
ln_vaccination	0.095*** (0.026)	0.073** (0.027)	0.051* (0.021)	0.069** (0.023)	0.034 (0.027)	0.025 (0.019)
intensity_total_19	0.247* (0.121)	0.271* (0.107)	0.141* (0.072)	0.261* (0.127)	0.263* (0.115)	0.138 (0.074)
ln_share_resid_19	0.508* (0.259)	0.685*** (0.178)	0.176 (0.132)	0.517* (0.263)	0.660*** (0.189)	0.162 (0.138)
ln_share_foreign_19	-0.003 (0.050)	0.006 (0.039)	0.010 (0.031)	-0.009 (0.052)	-0.010 (0.044)	-0.001 (0.034)
1.coastal	0.014 (0.020)	0.027 (0.023)	0.011 (0.017)	0.008 (0.021)	0.045* (0.023)	0.020 (0.017)
1.boarder	-0.068* (0.034)	-0.054 (0.030)	-0.024 (0.024)	-0.082* (0.032)	-0.065* (0.030)	-0.031 (0.024)
1.mountain	0.098*** (0.021)	0.075*** (0.021)	0.020 (0.016)	0.086*** (0.023)	0.066** (0.021)	0.013 (0.017)
annual effect	yes	no		yes	no	
_cons	5.996*** (1.416)	3.696* (1.474)	4.270*** (1.120)	6.077*** (1.432)	4.148** (1.527)	4.595*** (1.149)
Number of obs.	210	96	96	210	96	96
R-squared	0.989	0.657	0.201	0.988	0.631	0.179

*Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.*

Table A.12: Territorial Structure and COVID19 resilience in Rural areas without reference basis (Dependent variable: ln RES_resid)

	Dependent variable: ln_RES_resid					
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
1.REMOTE	0.042** (0.015)	0.064* (0.031)	0.018 (0.025)			
1._3PR				0.013 (0.019)	0.016 (0.031)	-0.010 (0.021)
ln_gdp_capita	-0.273*** (0.049)	-0.247** (0.076)	-0.101 (0.055)	-0.258*** (0.048)	-0.225** (0.077)	-0.093 (0.055)
ln_vaccination	0.051** (0.017)	0.051 (0.028)	0.034 (0.022)	0.038* (0.016)	0.026 (0.026)	0.020 (0.019)
intensity_resid_19	0.420*** (0.089)	0.418** (0.131)	0.222* (0.110)	0.411*** (0.100)	0.408** (0.138)	0.218 (0.111)
ln_share_resid_19	0.062 (0.068)	0.072 (0.086)	-0.016 (0.076)	0.073 (0.075)	0.083 (0.094)	-0.007 (0.079)
1.coastal	0.044** (0.015)	0.061* (0.025)	0.027 (0.020)	0.061*** (0.015)	0.076** (0.024)	0.033 (0.020)
1.boarder	-0.062** (0.022)	-0.068* (0.029)	-0.025 (0.026)	-0.066** (0.025)	-0.076* (0.030)	-0.029 (0.026)
1.mountain	0.070*** (0.015)	0.068** (0.022)	0.024 (0.018)	0.070*** (0.020)	0.064** (0.021)	0.020 (0.018)
annual effect	yes	no		yes	no	
_cons	6.859*** (0.694)	5.994*** (0.999)	5.225*** (0.797)	6.663*** (0.702)	6.063*** (1.006)	5.299*** (0.788)
Number of obs.	210	96	96	210	96	96
R-squared	0.989	0.445	0.283	0.989	0.416	0.279

*Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.*

Table A.13: Territorial Structure and COVID19 resilience in Rural areas without reference basis (Dependent variable: ln RES_foreign)

	Dependent variable: ln_RES_foreign					
	(whole)	(2021)	(2022)	(whole)	(2021)	(2022)
1.REMOTE	0.116* (0.064)	0.140* (0.112)	0.088 (0.071)			
1._3PR				0.014 (0.066)	0.030 (0.132)	-0.008 (0.070)
ln_gdp_capita	1.306*** (0.182)	1.306** (0.399)	0.700*** (0.204)	1.329*** (0.175)	1.339*** (0.392)	0.720*** (0.199)
intensity_foreign_19	-1.003*** (0.173)	-1.167* (0.459)	-0.400 (0.238)	-0.985*** (0.161)	-1.176* (0.469)	-0.410 (0.241)
ln_vacc_rappel	-0.141*** (0.043)	-0.134 (0.095)	-0.014 (0.061)	-0.194*** (0.045)	-0.193 (0.109)	-0.064 (0.063)
1.coastal	0.073 (0.051)	0.055 (0.108)	0.010 (0.055)	0.084 (0.050)	0.088 (0.109)	0.032 (0.056)
1.boarder	0.217*** (0.053)	0.304** (0.111)	0.175** (0.062)	0.201*** (0.057)	0.282* (0.114)	0.155* (0.062)
1.mountain	0.047 (0.047)	0.011 (0.100)	0.016 (0.061)	0.041 (0.058)	-0.001 (0.107)	0.003 (0.064)
annual effect	yes		no	yes	no	
_cons	-7.673*** (1.794)	-7.801 (4.003)	-2.652 (2.037)	-7.227*** (1.721)	-7.387 (3.999)	-2.185 (1.972)
Number of obs.	192	96	96	192	96	96
R-squared	0.987	0.231	0.202	0.986	0.221	0.190

*Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.*

Typologie territoriale et résilience : le cas de la reprise touristique post-COVID-19 des départements français (NUTS3)

Résumé - La pandémie de COVID19 a provoqué un choc sans précédent pour l'industrie touristique mondiale, entraînant des trajectoires de reprise très hétérogènes selon les destinations. Cette étude examine le rôle des différents types de territoires dans les dynamiques de reprise touristique au sein des régions françaises de niveau NUTS3 entre 2020 et 2022. En mobilisant un modèle de moindres carrés ordinaires avec erreurs standards corrigées pour les panels (OLS-PCSE), nos résultats montrent que les destinations métropolitaines et urbaines ont connu une reprise significativement plus faible que les zones rurales ou isolées. Cet écart s'explique principalement par une évolution des préférences touristiques en faveur des environnements peu denses, moins affectés par les restrictions de déplacement et perçus comme plus sûrs en matière de risques de transmission du virus. Ces résultats sont vérifiés à travers les différents segments touristiques, qu'ils soient domestiques ou internationaux, et sont confirmés par plusieurs tests de robustesse complémentaires. Compte tenu de l'organisation de la gouvernance touristique régionale en France, ces éléments suggèrent que les organisations de gestion de destination (OGD) devraient s'appuyer sur les spécificités de leurs sous-territoires pour renforcer leur résilience et atténuer les effets de crises futures.

Mots-Clés
Résilience touristique
COVID19
Etudes régionales