

The economic impact of COVID-19 on cultural tourism: the case of Mosque - Cathedral of Cordoba, Spain.

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ABSTRACT

This study aims to shed light on the COVID-19 pandemic effects on cultural tourism, given the economic aspects linked to heritage assets arising in cultural tourism destinations. We focus on the case of the Mosque Cathedral of Cordoba, one of the most visited sites in Spain, analysing how the economic flows generated by this monument has been affected by the outbreak through an applied linear general equilibrium model calibrated by a social accounting matrix. Results indicates that tourism and especially cultural tourism are among the hardest hit sectors during the pandemic.

Keywords: Economic impact, pandemic crisis, heritage site, cultural tourism, Córdoba.

Introduction

Cultural tourism aims to enjoy tangible and intangible cultural assets. The boom in cultural tourism has led many places rich in heritage or unique traditions to boost their economies by promoting this heritage as a tourist resource. In this context, applications to the UNESCO World Heritage Convention for the declaration of Tangible or Intangible Heritage of Humanity have multiplied (Hall, 2006; VanBlarcom & Kayahan, 2011; Frey & Briviba, 2021).

Spain is the third country in the world in terms of World Heritage Sites (WHS), with 48 declarations (UNESCO, 2020). The first four declarations were made in 1984, including the Mosque-Cathedral of Cordoba (MCC), and clearly responded to the criterion of recognition of conservation work. The declaration of WHS was extended to the entire historic centre of Cordoba in 1994, but it is undeniable that the MCC is a “must” for all visitors to southern Spain, becoming the third most visited monument in Spain (TOURSPAIN, 2022).

Economic valuation of cultural goods.

The objective pursued by the declaration of the MCC as WHS was not an economic objective, but the current situation has changed. The MCC continues to function as a religious temple and its ownership belongs to the Catholic Church, but it is a monument that can be visited outside the hours of religious services for which an entrance fee is charged. This income, along with the spending of tourists who visit the city attracted by the monument, generates an economic flow that

has a significant impact on the economy of the city and its province (Bedate, Herrero & Sanz, 2004; Morales-Fernández & Lanquard, 2014; Campoy-Muñoz, Cardenete & Delgado, 2017).

Economic impact of the Covid-19 crisis on the tourism sector.

When WHO declared COVID-19 as a pandemic on 11 March 2020, with its consequences in the form of population confinements decreed by national governments, it triggered an economic and social earthquake of unforeseeable consequences not experienced since the Second World War (Gössling, Scott, & Hall, 2020).

Although the tourism sector has already experienced other crises caused by pandemics due to coronaviruses, SARS in 2003 or MERS in 2015, none of them had caused such a globalised and profound, because its geographical expansion was much more limited (Hall, Scott & Gössling, 2020; Naramski, Szromek, Herman & Polok, 2022; Škare, Soriano & Porada-Rochoń, 2021). The drop in tourist arrivals caused by this crisis has meant, just in 2020, losses in tourist foreign exchange earnings of 1.3 trillion dollars, losses in global GDP of 2 trillion dollars and the destruction of nearly 120 million jobs (UNWTO, 2021). Transferring this scenario crisis in the tourism sector from macroeconomic figures to the microeconomic level of the impact on a city is not easy task (Cardenete, Delgado and Villegas, 2021). In the case of the city of Cordoba, the strong dependence of its tourism on its WHS, especially the MCC, offers a great case of study to accomplish this task.

In this context, this work aims to assess the economic impact of COVID-19 on cultural tourism by analysing the case of the MCC, focusing on how the economic flows from this WHS were affected by the paralysis of the tourism sector.

Materials and methods

A Linear General Equilibrium Model (LGEM) is employed in this applied and quantitative research note. Briefly, the dX represents the demand shock due to the spending in cultural tourism. M is the multiplier matrix, whose elements m_{ij} determine the variation on production needed to meet the demand shock. Finally, dY quantifies the changes on production:

$$dY = MdX \quad (1)$$

The number of jobs due to the demand shock is estimated by the corresponding labour multiplier, where $e_{n+1,i}$ is calculated as the number of jobs in the sector i (E^{ei}) divided by the total output of this sector (X_i):

$$L_j = \sum_{i=1}^n e_{n+1,i} m_{ij} \quad (2)$$

The LGEM is built upon a Social Accounting Matrix updated and tailored to the spatial framework under study, named SAMCOR'19^{1,2} (Delgado, 2021). SAMCOR'19 provides a snapshot of the economic structure of Cordoba throughout its 21 accounts, 11 for productive sectors and 10 account for institutional sectors (Table 1). All accounts are considered in the model, following the endogeneity criteria established by Pyatt & Round (1985).

Table 1 Cordoba's economy: contribution of productive sectors (Percentage)

		Agriculture	Extractive	Food	Manufacturing	Energy
GDP	14,621 million €	7.6	0.2	1.9	5.6	3.7
Employment	290,572 full-time	5.3	2.8	7.9	20.4	4.2

¹ Database is available from the authors upon request.

² SAMCOR has been built from the input-output framework of Andalusia published by the Instituto de Estadística y Cartografía de Andalucía (IECA) for the year 2016. This matrix has been updated (year 2019) and provincialised (Cordoba) by the contrasted cross-entropy method (CEM) (Robinson, Cattaneo and El-Said, 2001).

	equivalent jobs.					
	Construction	Commerce	Tourism	Transport	Private services	Public services
GDP	6.2	12.1	4.0	6.6	27.0	25.1
Employment	5.6	9.0	4.9	5.5	19.4	15.0

Source: Authors' elaboration.

Results

To assess the economic impact of COVID-19 we compare the demand shock (dX) generated by the cultural tourism due to the MCC in 2019 and the estimates in 2020 under different scenarios³ (Table 2): Scenario 1 displays the figures calculated from official statistics; Scenario 2 follows an alternative approach to overcome the shortage of official statistics; Scenario 3 shows what would happen if COVID-19 had not happened. The shock under each scenario has the same components: the spending of cultural visitors attracted by the monument, according to the categories recorded in the SAMCOR'19, and the spending by the monument due to its activity.

Table 2 Estimates of spending made by cultural tourist in Cordoba and MCC (Thousands, 2019 euros).

	2019	2020		
		Scenario 1	Scenario 2	Scenario 3
Commerce	28,933.71	6,232.52	9,875.16	31,115.41
Tourism	69,643.22	19,949.96	23,850.13	74,261.43
Transport	23,800.31	4,093.55	8,123.11	24,818.90
Private services ⁴	8,349.24	1,560.21	2,849.62	7,753.57
MMC	13,189.00	9,805.14	9,805.14	10,321.10
Total (% of 2019 GDP)	0.88	0.22	0.31	0.94

³ Estimates are available from the authors upon request.

⁴ "Private services" includes: Programming, consultancy and other computer-related activities; auxiliary activities to financial and insurance services; advertising and market research; Security and investigation activities; and Activities legal and accounting.

Source: Authors' elaboration.

The spending of cultural visitors is estimated as described in Campoy-Muñoz, Cardenete & Delgado (2017) for 2019 and 2020 (Scenario1). However, official statistics for 2020 have shortages (IECA, 2021) and estimates have been also done following the fall in tourism spending estimated by Exceltur (2020a) at the national level (Scenario2). It is assumed that tourism spending in Cordoba exhibits the same behavior due to the monthly evolution of visits of national and international tourists (INE, 2020); and the fact that cultural is like the general tourist in Cordoba since it is mainly an inland and cultural destination. Finally, estimates without epidemic interference have been included (Scenario3) to provide a more in-depth analysis of the impact of COVID-19. To do this, figures have been estimated based on the law of economic flow change rate in recent years (2016-2019). Scenarios 1 and 2 show an overall reduction of about 76% and 66% in tourists' spending, respectively. This difference could be explained by the characteristics and the aforementioned limitations of the data source underlying each scenario (tourists vs. firm's surveys), allowing the latter directly work with spending data (firm's turnover). Meanwhile, scenario 3 depicts an overall increase of 5.5% over 2019.

MCC's demand estimates arise from its budgets (Cabildo Catedralicio, 2020 and 2021). In scenarios 1 and 2, the drop in demand is explained by the cessation of visits during the pandemic. Scenario 3's estimates are made as above mentioned. However, given an abnormally high construction spending for 2019, estimates for this rubric are made using 2016-2018 data.

Table 3 compares the effects of such injections for 2019 and 2020 scenarios in terms of production, Gross Domestic Product (GDP) and number of full-time equivalent jobs. Tourism due to MCC accounts for 50% of cultural tourism in Cordoba (IMTUR, 2020) and contributes more than 1 percentage point to its production or GDP under normal conditions (2019 and 2020-Scenario3).

MCC's visits declined over 77% due to the mobility restrictions, slightly more than Cordoba's tourists (-70%) and higher than the region (-59%), with a wider tourist offer. This reduces its contribution to one third (Scenario1) or less than half (Scenario2), at best. However, the contribution to Cordoba's employment is much more modest (less than a fifth of a point, at the best) due to its temporary nature (Exceltur, 2018).

Table 3. Effects on Cordoba's economy (Thousands of euros).

Year	Total Production		GDP		Employment	
	Absolute	%	Absolute	%	Absolute	%
2019	394,649.05	1.16	171,952.94	1.18	569.6	0.20
2020-Scenario1	110,407.37	0.32	47,803.33	0.33	157.21	0.05
2020-Scenario2	146,462.40	0.43	64,086.84	0.44	209.2	0.07
2020-Scenario3	406,150.41	1.19	176,804.32	1.21	590.27	0.21

Source: Authors' elaboration.

The losses are unevenly distributed over activity branches⁵. Tourism, followed by Transport and Commerce, are the most affected by the shortage of tourists. However, other activities, not directly impacted by the shocks, such as Agriculture, also exhibit falls. This shows the connections among cultural tourism and remaining activities and explains why the decline of cultural tourism activity for just over a quarter would result in a contraction of more than three-quarters of a percentage point of GDP, compared to a scenario without pandemic.

⁵ Details results by productive sector are available from the authors upon request.

Discussion and conclusions

These results exemplified the impact of COVID-19 on cultural tourism and are due to the measures implemented by the Spanish government to curb contagion, with limitation on mobility as one of the most notable. As a result, the year 2020 closed with an unprecedented slump in tourism. Activity fell by 106 billion euros, -69% compared to the peak levels of 2019, bringing the weight of tourism in the Spanish economy as a whole to 4.3%, as opposed to the 12.4% it represented in 2019 (Exceltur, 2021).

On the other hand, the branches of activity related to tourism are those that are suffering by far the greatest falls in their sales levels. According to variation rates 2020 vs 2019, the accommodation services, travel agencies, catering and air transport sectors accumulate the highest percentages of decline, varying from -96% to -82% (Exceltur, 2020b). In the same way, our study indicates that the tourism and transport sectors are the most affected by the crisis.

In terms of employment, 64% of the employment impacted by the pandemic in the Spanish economy as a whole is in tourism, and the branches of the tourism sector are those with the greatest year-on-year fall in affiliates, 85% compared to 56% of those affected by Temporary Employment Regulation Files (ERTE in Spanish), with the branches of accommodation, travel agencies and air transport topping the list (Exceltur, 2021).

Our study sizes the negative effects of pandemic in cultural tourism industry and economy, since the immediate consequences are compounded by the links between buyers and sellers. In this regard, the LGEM provide sensible estimates of the impact due to the pandemic shock, but limited by data availability. Overcoming this hurdle, the future development of Non-linear General Equilibrium Models would allow analyse the impact of measure with medium- and long-term effects on tourist inflows, such joint initiatives of WHS at provincial or regional levels.

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