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Sanctions and tourist flows: The roles of religion and geography

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ABSTRACT

This study explores whether different types of sanctions, such as arms, military, trade, finance, and travel sanctions, affect bilateral tourist flows from the sender to the sanctioned country. It also investigates the moderating roles of religious and geographical proximity on the underlying relationships. We use a panel gravity data set consisting of 206 origin countries, 189 destination countries, and 16,557 country-pairs over the period 1995 to 2018 for the empirical analysis. The results indicate that sanctions adversely impact bilateral tourist flows from the sender to the sanctioned country regardless of the type of sanction. The results also suggest that the negative effects of sanctions on bilateral tourist flows can be attenuated, to some extent, by geographical proximity and common religion.

1. Introduction

Sanctions have become a key foreign policy tool that is often credited for offering peaceful means of conflict resolution in lieu of the use of military force. Sanctions are being used with increasing frequency, and their scope has widened from predominantly trade restrictions to encompass other types of penalties such as financial, travel, arms sales, and military aid (Felbermayr, Kirilakha, Syropoulos, Yalcin, & Yotov, 2020). In general, the main goal of sanctions is to compel the sanctioned states' political leadership or entities to comply with the sender country's demands (Peksen & Drury, 2010).¹ However, considering the various economic, social, and political interdependencies between countries, scholars and policymakers have increasingly raised concerns about the potential unintended consequences of sanctions (Early & Cilizoglu, 2020; Özdamar & Shahin, 2021).

As bilateral tourist flows represent an important form of international interdependence across countries, the imposition of different types of sanctions could disrupt the interdependence of international tourism demand and supply. Specifically, we expect sanctions to adversely affect tourist flows. However, interdependent actors within the tourism network may possess different capacities or willingness to recalibrate their tourism activities in the presence of sanctions or adjust to the changing political landscape induced by the application of

sanctions. Evidence from the extant studies shows that socio-cultural linkages such as religion and geographical proximity are important determinants of tourist flows (Collins-Kreiner, 2020; Yang, Liu, Li, & Harrill, 2018). As a result, linkages through religious or geographical proximity may have moderating influences on the underlying link.

Despite the increase in the use of sanctions over time and recent arguments on the importance of sanctions in tourism literature (Seyfi & Hall, 2020b; Seyfi, Hall, & Vo-Thanh, 2020, 2022), relatively scant systematic, quantitative, cross-country research has explored the degree to which sanctions affect tourist flows. In fact, a recent literature review shows that evidence on the consequences of sanctions on tourism is scarce (Seyfi & Hall, 2020b). While Seyfi and Hall (2020b) took the first step in suggesting the theoretical foundations of this relationship, to date, only a handful of country-specific studies have explored the effects of foreign economic pressure on tourist arrivals (Yap, Saha, Ndubisi, Alswaidi, & Saleh, 2022). These studies, however, focused on a specific sanction event, such as the blockade in Qatar, rather than the impacts of various types of sanctions on bilateral tourist flows using a gravity approach. Additionally, the findings of previous studies would be difficult or impossible to generalize given the country-specific nature of the analyses.

Furthermore, the efficacy of sanctions in terms of disrupting international interdependence through their potential dampening effects on

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¹ The country that imposes sanctions is called "sender".

international tourist flows may not be robust. This is consistent with the notion that many countries show remarkable resilience to the persistent economic pressures directed towards them (Seyfi & Hall, 2019). This observation not only raises questions regarding the effectiveness of sanctions, but also suggests that countries may, to some extent, develop coping mechanisms that enable them to mitigate the potential adverse effects of sanctions. The literature, however, largely overlooks the relevant socio-cultural and proximity factors, such as religious and geographical proximity, that may moderate the relationships between sanctions and tourist flows. Religious and geographical proximity are strong predictors of tourists' intentions to visit a destination (Ng, Lee, & Soutar, 2007), can shape tourists' destination perceptions and feelings of solidarity (Joo, Woosnam, Shafer, Scott, & An, 2017), and contribute to tourists' perceived sense of safety in a region or country (Yang, Zhang, Wu, & Li, 2023). Taken together, these factors are likely to moderate the expected direct economic, social, and psychological effects of sanctions.

In view of the foregoing, the purpose of this study is to investigate to what extent sanctions affect tourism flows in a large cross-country setting. Specifically, this study investigates the overall effect of sanctions as well as the effect of different types of sanctions – arms, military, trade, finance, and travel sanctions –, on tourist flows from the sender to the sanctioned country. It also examines the moderating roles of religious and geographical proximity on the underlying relationships. To investigate these questions, the study employs a panel gravity data set consisting of 206 origin and 189 destination countries comprising 16,557 country-pairs over the period 1995 to 2018.

The results of this study are not particularly susceptible to the potential endogeneity of sanction indicators. Specifically, some sanctions may be imposed in response to events, such as civil conflicts or violations of human rights, that themselves generate the observed economic effects and disruptions in the tourism industry. To address these potential endogeneity concerns, we use the sender's aggressiveness -measured as the number of sanctions imposed in a given year - as an instrument for imposed sanctions, similar to Kwon, Syropoulos, and Yotov (2022). The rationale for using this instrumental variable is that the sender's overall aggressiveness is a sender-specific characteristic, not influenced by the actions of target countries. While it should affect the bilateral probability of sanctions imposition, it is not likely to have a direct effect on the tourist arrivals to the target country from the sender country. After controlling for potential endogeneity issues using the instrumental variable approach, the findings regarding the impacts of different types of sanctions still hold.

This study contributes to the literature on sanctions and tourism flows in several ways. First, this is the first large cross-country study that provides empirical evidence on the effect of sanctions on tourist flows. The findings of this study highlight the role of sanctions as important political determinants of tourism flows, in addition to other, more often studied political shocks such as war and terrorism (Araña & León, 2008; Manrique de Lara Peñate, Gallego, & Valle, 2022) or legal and regulatory determinants such as visa restrictions (Li & Song, 2013; Song, Gartner, & Tasci, 2012). Second, we investigate the role of several types of sanctions on bilateral tourist flows. It is crucial to distinguish between various types of sanctions because the ways policymakers use them may vary. For example, sanction policies can be redesigned to rely more on financial sanctions than on trade sanctions (Early & Cilizoglu, 2020). By considering different types of sanctions, we can provide a holistic view of the effects of sanctions and better capture the different policy approaches to sanctions. For instance, the results show that different types of sanctions, such as trade, financial, arms, travel, and military sanctions, mostly constitute international political stimuli that directly influence bilateral tourist flows.

Finally, by investigating the moderating roles of religious and geographical proximity, we add to the limited literature on how tourism in countries exposed to sanctions can offset the detrimental effects of different types of sanctions. The findings suggest that the psychological impact of sanctions is not uniform among tourists across countries. This

implies that tourists who are closer to sanctioned states, either by geographical or religious proximity, are hardly dissuaded from visiting following the imposition of sanctions.

2. Literature review and hypothesis development

The influences of international relations and political factors on tourist flows are well acknowledged in the literature. On the one hand, worsening diplomatic ties can act to depress tourist arrivals and hinder the development of tourism and hospitality enterprises (Kim, Prideaux, & Timothy, 2016; Webster & Timothy, 2006). On the other hand, friendly political relations are positively related to both service trade import and export (Wang & Li, 2024). There is also a growing recognition of the role of tourism in the changing geopolitical landscape, with heritage and nation-building aspects of tourism brought to the fore (Gillen, 2024; Gillen & Mostafanezhad, 2019; Pfoser & Yusupova, 2022).

Another strand of literature explores the vulnerability of the tourism sector to external political shocks such as acts of terrorism or war. Due to its international interdependence and dependence on safety and security, tourism is intrinsically susceptible to such threats (Ritchie, 2004). Numerous empirical studies have confirmed the negative effects of sociopolitical shocks or disasters on tourism flows (Araña & León, 2008; Balli, Uddin, & Shahzad, 2019; Saha & Yap, 2014). Recently, Akamavi, Ibrahim, and Swaray (2023) show that the impacts of security threats such as terrorist attacks, political turmoil, and geopolitical power-plays on tourism demand and the tourism economy can also be nuanced. For example, they document that while overall geopolitical power-plays have negative effects on the tourism economy, they do not find significant effects of neighboring countries' relations on tourism demand.

A related strand of literature highlights the importance of legal and regulatory factors in determining tourist flows. In particular, the adoption of stringent travel visa restrictions, which are frequently enacted to safeguard national security interests, can hurt the international tourism sector since they impede the international exchange of goods and services and limit access to one's space (Neumayer, 2006). There is evidence that tourist visa policies are driven by the country's policy environment, including political stability, financial depth, and membership in particular country networks and partnerships (Bangwayo-Skeete & Skeete, 2017). Tourist visa exemptions, on the other hand, can reduce barriers to travel and lead to increased foreign tourist arrivals (Nitsch, 2019; Yudhistira, Sofiyandi, Indriyani, & Pratama, 2021). However, there is also evidence that visa exemption policies can have adverse effects in terms of immigration violations (Prihartini & Yudhistira, 2023).

Against this backdrop, the literature on sanctions and their potential impacts on tourist flows is limited and fragmented. Despite the increase in their use globally and their relevance for both policymakers and practitioners, sanctions have not been a significant theme in tourism research, both theoretically and empirically (Seyfi & Hall, 2020a, 2020b). The few existing studies typically focus on the impact of a particular sanction event(s) on tourism in a specific country, such as Iran (Gorji, Garcia, & Mercadé-Melé, 2023; Pratt & Alizadeh, 2018; Seyfi et al., 2022), Russia (Stepchenkova, Shichkova, Kim, & Rykhtik, 2018), and Qatar (Yap et al., 2022) or the impact of specific sanction packages on the firms in the travel industry worldwide such as the aviation sanctions packages related to the Russia-Ukraine war and their impact on stock performance of firms in the aviation sector (Corbet, Nicolau, & Oxley, 2023).

Most recently, Farmaki (2024) investigated resident perceptions of animosity against tourists from a particular sanctioned state - Russia, identifying polarizing views, with some residents expressing affinity and some expressing animosity to Russian tourists. Moreover, while the few country case studies do provide important insights into the possible direct negative effects of sanctions on tourism, we know little about factors that may alleviate the potential negative effects.

2.1. Sanctions and tourist flows

The effects of sanctions on tourist flows could be explained through their direct effects on the economy of the sanctioned state and second-order social and psychological effects. The primary goal of sanctions is to limit the economic activity of the targeted country by disrupting existing international economic ties. The disruption of existing international economic ties in the targeted country would likely affect tourist flows. First, sanctions can involve travel bans on either particular individual, groups of individuals, or all nationals from the target country. For instance, the U.N. travel sanction on Sudan in 1996 restricted the entry of Sudanese government officials and its armed forces personnel to any of the U.N. member states, and in 2006, Russia completely banned the entry of Georgians traveling to Russia (Felbermayr et al., 2020). In line with these considerations, there is evidence that restrictive visa policies efficiently discourage international travel (McKay & Tekleslassie, 2018). In the case of sanctions on Iran, Pratt and Alizadeh (2018) demonstrate that these measures significantly harmed the tourism industry, especially when the countries implementing the sanctions imposed stricter visa regulations for traveling to Iran.

Second, tourism flows may be vulnerable to the contraction and disruption induced by the application of sanctions, even without imposing direct travel sanctions. With the reduction in income and purchasing power, international tourism demand will suffer as tourism consumers reduce their spending on foreign travel (Peng, Song, & Crouch, 2014; Waqas-Awan, Rosselló-Nadal, & Santana-Gallego, 2021). Turbulence in financial markets and exchange rate volatility due to sanctions will negatively affect the relative price of tourism, and rising prices will deter demand (Khalid, Okafor, & Shafiullah, 2020; Shafiullah, Okafor, & Khalid, 2019).

Furthermore, a reduction in foreign investment can negatively affect tourism flows by limiting the flow of international funds used to maintain or develop tourist attractions, accommodation facilities, and transportation networks (Endo, 2006). Similarly, a reduction in trade links due to sanctions can reduce business travel, limit advertising and exposure via traded goods and services, and thus lower tourist flows (Santana-Gallego, Ledesma-Rodríguez, & Pérez-Rodríguez, 2011).

Sanctions and the potential resultant economic hardships could lead to political and social unrest, which in turn could negatively affect tourist flows. Allen (2008) highlights that sanctions result in wealth reduction and increased income inequality, subsequently leading to frustration and aggression, especially among disadvantaged groups. Economic grievances and feelings of injustice may motivate people to violence (Gurr, 1968). In addition, the sanctioned country's leadership, which controls scarce public resources (made even scarier by the sanctions), will likely use these resources in their favor and divert the cost of sanctions disproportionately to ordinary citizens, exacerbating the grievances and feelings of injustice. In particular, the well-being of the most vulnerable groups worsens, and gendered violence and discrimination increases (Drury & Peksen, 2014). Indeed, studies show that countries under sanctions experience increased crime rates, anti-government violence, and the likelihood of leadership turnover (Al-Ali, 2005; Allen, 2008).

Moreover, governments may issue travel warnings, issuers withdraw travel insurance, and potential tourists cancel their travel plans (Hashimoto, Härkönen, & Nkyi, 2020). Safety-related advice from travel advisories that leads tourists to believe their safety is at risk, whether based on actual events or on miscommunication, has long-lasting effects and is difficult to reverse (Toubes & Araújo-Vila, 2021). Empirical findings suggest that the presence of conflict, human rights violations, and political risks negatively affect tourist flows for both destination and source countries (Ghalia, Fidrmuc, Samargandi, & Sohag, 2019; Neumayer, 2004). Additionally, Bassil, Saleh, and Anwar (2019) find that the negative effect of the presence of danger on tourism arrivals can spillover beyond the destination country to other countries in the region. Similarly, the state of democracy, as well as freedom and civil liberties,

were found to be important determinants of tourism demand and supply (Balli, Balli, & Louis, 2016; Saha, Su, & Campbell, 2017). Tourists are likely to prefer safer destinations over risky ones and are attracted to countries with more personal freedom.

Sanctions can also lead to second-order psychological and mental effects. Research in international relations suggests that sanctions exert an "outcast effect". How a sanctioned country is treated by the media and the international community is largely influenced by the stigma generated by public shaming, and it makes it easier for other countries to enact adversarial policies against a sanctioned country (Peterson & Drury, 2011). Therefore, even sanctions that do not have a high monetary cost can negatively affect a sanctioned country's reputation (Lebovic & Voeten, 2009).

Research also shows that the country's image significantly influences tourist decision-making and destination choice. It also determines the competitiveness of travel destinations (Tasci & Gartner, 2007). Being portrayed as a dangerous, unstable destination and an international outcast could send negative signals to visitors. Consequently, sanctions can create a negative image of a destination, decrease the perceived safety and security for visitors, or reinforce existing generalizations, stereotypes, and negative perceptions, whether they reflect the actual situation or not (Khodadadi, 2016; Seyfi & Hall, 2020b). For example, Stepchenkova et al. (2018) show that the US sanctions on Russia had a negative effect on the US image as a destination and reduced Russian tourists' intention to visit. Similarly, Gorji et al. (2023) found that sanction-led crisis in Iran influenced both affective and cognitive images of Iran as tourist destination and enhanced tourist risk perceptions, in particular among non-visitors. Such an environment, in turn, can create an unfavorable business environment for tourism-related businesses, cause difficulties in the tourism planning process, and lead to a drop in tourist arrivals and departures (Issa & Altinay, 2006). Indeed there is evidence that tourism suppliers like tour operators rely on favorable perceptions of a destination, in particular those relating to safety (Zou & Meng, 2020).

In view of the above, we expect that the adverse economic, social, and psychological effects caused by sanctions will lead to a decrease in bilateral tourism flows. We therefore hypothesize:

H1. Sanctions, regardless of the type, have a negative effect on bilateral tourist flows.

2.2. The moderating effects of religious and geographical proximity

Several factors may affect the impact of sanctions on tourist flows. First, the depth of the impact may decrease if the sender and the sanctioned state share a common religion. Differences in religion are an important factor shaping people's perceptions of cultural distance and a strong predictor of tourists' intentions to visit a destination (Ng et al., 2007). For instance, sharing a common religion decreases cultural distance, which can minimize potential risks and friction between tourists in a new country and hosts, supports easier adaptation to the strange environment, reduces uncertainty, and requires lesser information search on aspects such as adequate accommodation, food, and safety (Reisinger & Mavondo, 2006; Yang, Liu, & Li, 2019). These may, in turn, reduce tourists' expenses and increase satisfaction (Yang et al., 2018). Consequently, in cases where the sanctioning and the sanctioned countries share a common religion, the social and psychological effects of sanctions are likely to be weaker.

In addition, greater cultural distance can induce feelings of uncertainty, discomfort, prejudice, lack of acceptance, and a sense of heightened risk (Ng et al., 2007; Reisinger & Mavondo, 2006; Sharma, Tam, & Kim, 2009). Consequently, the psychological impacts of sanctions may be reinforced by any preexisting notions of strangeness, prejudice, and dissimilar views and beliefs. Subsequently, this can inflate transaction and travel costs, as travelers from both the sender and the target country would need to invest more effort and money to reduce

uncertainty, ensure safety, and improve the overall experience of their stay.

Second, the impact sanctions have on tourism flows may vary depending on the geographical distance between the sender and the sanctioned state. Greater geographical distance may have a similar effect on tourist decision-making behavior to cultural distance, such that tourists tend to choose destinations closer to home, for locations further apart are associated with higher monetary and non-monetary costs (Peng et al., 2014). Likewise, tourist destinations are more often marketed to countries that share land borders, such that outbound tourists are likely to have had greater promotional exposure to destinations closer to them than those further away (McKercher & Mak, 2019). Relatedly, recent evidence from Gozgor, Lau, Zeng, Yan, and Lin (2022) suggests that while geopolitical turmoil has negative effects on tourism investments, the interchange of views, ideas, and social values between nations can alleviate those negative effects. Such interchange of views, ideas and values becomes more likely and easier as geographical distance decreases.

Additionally, tourists and residents in nearby destinations feel greater emotional solidarity (Joo et al., 2017), and emotional solidarity with residents can contribute to tourists' perceived sense of safety in a region or country (Woosnam, Shafer, Scott, & Timothy, 2015). This is in line with the notion that people are less likely to be aware of the news from non-local regions (Mitchell, Simmons, Matsa, & Silver, 2018). As such, potential tourists from more distant regions may even be misinformed about the actual impact of sanctions on the targeted state. Consequently, the social and psychological impacts of sanctions are likely to be stronger if the sanctioning and the sanctioned countries are geographically more distant. This line of argument is consistent with the findings Khodadadi (2016) reported that after the imposition of sanctions on Iran, tourist flows from Western countries declined. Similarly, Lebanon's unstable political situation and its international image of an unsafe and insecure country led to a decrease in international tourist inflows. At the same time, because Arabs suffered from unfair image generalization in international media outlets, Lebanese tourists preferred to spend their holidays in culturally closer countries where they would feel welcome as well as being nearer to home (Issa & Altinay, 2006).

Next, recent research on affinity in tourism indicates that direct affective attraction towards a specific destination is related to willingness to visit and the likelihood of recommending a destination towards which affinity is experienced (Josiasen, Kock, & Nørfelt, 2022). Importantly, there can be substantial variation in tourists and residents' affinity or animosity towards a sanctioned state and those attitudes are strongly related to their perceptions of similarity and shared values. For example Farmaki (2024) shows that in the context of sanctions towards Russia due to the Russia-Ukraine war, same religion, political ideology, feelings of economic loathing towards Western countries, and previously held positive attitudes towards Russia were associated with positive attitudes of residents of Cyprus towards tourists from Russia. We can expect that those aspects can also matter for whether tourists express affinity towards a sanctioned state. Consequently, the negative impact of sanctions on tourist flows in the context of religious and geographical proximity is likely to be reduced.

Finally, some researchers suggest that tourism in countries with the status of international pariahs has the potential to grow due to the unspoiled environment and lack of mass tourism (Seyfi & Hall, 2019). These benefits of sanctioned countries are likely to be more easily accessible to tourists from culturally and geographically closer areas.

Following the above discussion, we propose the following hypotheses:

H2. The negative effect of sanctions on tourist flows is partially or fully offset if the sender and the sanctioned country share a common religion.

H3. The negative effect of sanctions on tourism flows is partially or fully offset if the sender and the sanctioned country are geographically close.

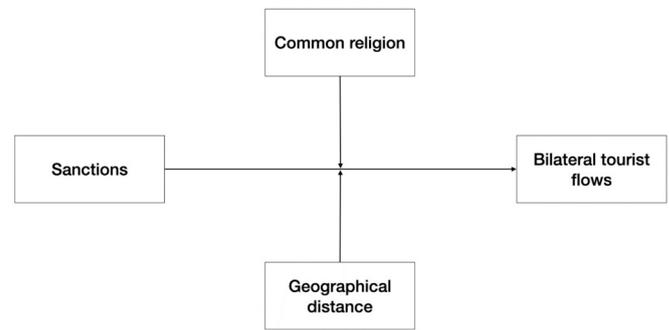


Fig. 1. Conceptual Framework.

Fig. 1 encapsulates the conceptual framework of the study. The theoretical rationale for the link between sanction and tourism is articulated by Seyfi and Hall (2020b) whereas the theoretical conjectures of potential moderating roles of religion and geographical proximity are discussed earlier under the hypothesis development. It shows that sanctions could negatively affect tourist flows, while common religion and geographical proximity potentially reduce the negative effect of sanctions on tourist flows.

3. Methodology

We use the structural gravity model to explore the impacts of several types of sanctions on international tourist flows. Within the tourism literature, the gravity model is commonly used to empirically model the impact of the various socioeconomic phenomena on bilateral tourist flows, such as linguistic and cultural proximity, economic size, FDI, exchange rates, relative prices, migration, and conflict, among others (see, e.g., Gil-Pareja, Llorca-Vivero, & Martínez-Serrano, 2007; Gopalan, Khalid, & Okafor, 2023; Khadaroo & Seetanah, 2008). Our baseline reduced-form augmented gravity model for estimating the impacts of different types of sanctions on tourist flows can be specified as below:

$$\ln(TF)_{odt} = \beta_0 + \beta_1 Sanction_{odt} + \gamma Z_{dt} + \vartheta X_{ot} + \rho W_{odt} + \delta_t + \theta_{od} + \varepsilon_{odt} \quad (1)$$

where odt refers to the country of origin, country of destination, and year, whereas 'ln' denotes a natural logarithm. δ_t denotes the year fixed effects, θ_{od} is the country-pair fixed effects, and the error term is represented by ε_{odt} .

TF in Eq. (1) denotes tourist arrivals from the origin country to the destination country, and $Sanction$ is a variable that captures the different types of sanctions imposed by the country of origin on the country of destination. Z_{dt} , X_{ot} , and W_{odt} are vectors of destination-specific, origin-specific, and country-pair-specific control variables. In total, we estimate six variants of Eq. (1) for the indicator of the overall sanctions and five different indicators of sanctions, such as arms, military, financial, trade, and travel sanctions.

The model in Eq. (1) controls for country-pair and time-fixed effects, however, it does not completely control for the multilateral resistance terms (MRTs). In general, it is crucial to control for MRTs in a gravity framework, as highlighted by Anderson and Van Wincoop (2003, 2004). Therefore, we re-estimate Eq. (1) by including country of origin-time fixed effects and country of destination-time fixed effects, which control for MRTs as follows:

$$\ln(TF)_{odt} = \alpha_0 + \alpha_1 Sanction_{odt} + \vartheta_{ot} + \varnothing_{dt} + \theta_{od} + \varepsilon_{odt} \quad (2)$$

where ϑ_{ot} denotes the country of origin-time fixed effects that control for the outward MRTs and for all other observable and unobservable origin country-specific factors that potentially affect tourist flows. Similarly,

\varnothing_{dt} is the country of destination-time fixed effects that account for the inward MRTs together with all the observable and unobservable destination country-specific characteristics that potentially affect tourist flows.²

In addition, we also investigate the dynamic link between sanctions and tourist flows by introducing lags in the model. The dynamic version of the model enables us to address the potential issue of endogeneity that may arise because of reverse causality from bilateral tourist flows to sanctions and helps us robustly establish the impacts of sanctions on bilateral tourist flows. The dynamic version of the model is given by the following Equation:

$$\ln(TF)_{odt} = \varphi_0 + \varphi_1 Sanction_{od,t-\Gamma} + \vartheta_{ot} + \varnothing_{dt} + \theta_{od} + \varepsilon_{odt} \quad (3)$$

where, Γ is the lag length from 1 to 5.

As highlighted in the previous section, the potential negative impacts of sanctions on bilateral tourist flows are likely to be reversed if the country-pairs are either physically or religiously close to each other. In order to test these hypotheses, we extend Eq. (2) by including an interaction term of all the sanction variables with measures of religious and physical proximity. Consequently, we estimate the following Equations:

$$\ln(TF)_{odt} = \rho_0 + \rho_1 Sanction_{odt} + \rho_2 Sanction_{odt} \times CR_{od} + \vartheta_{ot} + \varnothing_{dt} + \theta_{od} + \varepsilon_{odt} \quad (4)$$

$$\ln(TF)_{odt} = \gamma_0 + \gamma_1 Sanction_{odt} + \gamma_2 Sanction_{odt} \times CL_{od} + \vartheta_{ot} + \varnothing_{dt} + \theta_{od} + \varepsilon_{odt} \quad (5)$$

$$\ln(TF)_{odt} = \delta_0 + \delta_1 Sanction_{odt} + \delta_2 Sanction_{odt} \times TD_{od} + \vartheta_{ot} + \varnothing_{dt} + \theta_{od} + \varepsilon_{odt} \quad (6)$$

where, CR_{od} is the common religion index varying from 0 to 1. A higher value of the index corresponds to a country pair that shares a common religion practiced by a large fraction of the population (Cotterlaz & Mayer, 2022). CL_{od} is a dummy that takes the value 1 if the physical distance between the origin country and the destination country is below the mean distance, and the value of 0 otherwise. Lastly, TD_{od} is a dummy indicator that is equal to 1 if the time zone difference is <3 hours between the origin country and destination country, and 0 otherwise. In the above three Equations, we expect the coefficients of the interaction terms to be positive and statistically significant.

Apart from MRTs, another issue that plagues the estimation of gravity models is the presence of zero and/or missing tourist flows, which makes the linear fixed effect estimator less robust. While the number of country-pairs with zero tourist flows or a missing value is negligible in our sample (see Table A1, available in the Supplementary Materials), however, for robustness check, we also estimate Eq. (1) using Poisson Pseudo-Maximum-Likelihood (PPML) estimator.³

4. Overview of data

To estimate our empirical model, we use gravity panel data consisting of 203 origin and 189 destination countries, resulting in 16,557 country-pairs from 1995 to 2018. The data on our dependent variable – tourist arrivals – were extracted from the UNWTO database (World

² By including origin-time fixed effects and destination-time fixed effects we control for all the observable and unobservable origin and destination specific variables that affect bilateral tourist flows. Hence, we do not need to include any additional origin or destination specific control variables.

³ We do not estimate Equation (2) using PPML due to the computational issues surrounding PPML when high-dimensional fixed effects are included in the model as is the case in Equation (2), and the existence of severe downward bias of robust standard errors due to the addition of high-dimensional fixed effects (Pfaffermayr, 2019).

Tourism Organisation, 2020). Tourist arrival is one of the most frequently used measures for capturing international tourist flows in the extant literature (Gil-Pareja, Llorca-Vivero, & Martínez-Serrano, 2007; Gopalan, Khalid, & Okafor, 2023; Khalid, Okafor and Sanusi, 2021).

The data on the explanatory variable of interest– that is, the sanction variables come from the Global Sanctions Database (GSDB) (Felbermayr et al., 2020; Kirilakha, Felbermayr, Syropoulos, Yalcin, & Yotov, 2021). The GSDB database is rich as it contains information on different forms of sanctions over the period 1950–2020. This makes it possible for us to construct different indicators of sanctions, such as military, arms, among others. In addition, it allows us to categorize trade sanctions into partial and complete trade sanctions.

In this study, we use different indicators to capture sanctions imposed by the country of origin on the country of destination. These include: i) *Arms sanction*, takes the value of 1 when the destination country is subjected to an arms sanction from the origin country in time t , and 0 otherwise; ii) *Military sanction*, takes the value of 1 when the destination country is subjected to a military sanction from the origin country in time t , and 0 otherwise; iii) *Financial sanction*, takes the value of 1 when the destination country is subjected to a financial sanction from the origin country in time t , and 0 otherwise; iv) *Trade sanction*, takes the value of 1 when the destination country is exposed to a trade sanction from the origin country in time t , and 0 otherwise; v) *Travel sanction*, takes the value of 1 when the destination country is subjected to a travel sanction from the origin country in time t , and 0 otherwise. In addition, we use the *Overall sanction* variable to capture the overall effect of sanctions. The variable is created by aggregating different types of sanctions imposed by the sender on the sanctioned country in a given year. Moreover, in our analysis, we also distinguish between partial and complete trade sanctions. We define trade sanctions as complete if there is a complete trade sanction on the exports and imports of the target country. Otherwise, we categorize the trade sanctions as partial trade sanctions. Multiple studies have used a similar approach to capture the effect of sanctions on various socio-economic outcomes (e.g., Khalid, Ali, Okafor, & Sanusi, 2024).

Following studies in the existing literature, we also control for relevant determinants of tourist flows (see, e.g., Gil-Pareja et al., 2007; Khadaroo & Seetanah, 2008). These variables include the GDP per capita of the destination country and the origin country, the population of the destination country and the origin country, bilateral trade flows between the origin and the destination countries, and the change in relative prices. The relative price is captured using $\frac{GDPDEF_o/REER_o}{GDPDEF_d/REER_d}$, where $GDPDEF$ refers to the GDP deflator and $REER$ represents the real effective exchange rate. The data for control variables come from the CEPII gravity database (Cotterlaz & Mayer, 2022). The definitions and the expected sign of each variable are available in Table A2 in the Supplementary Materials.

4.1. Summary statistics

Table A3 presents the summary statistics for countries that attract fewer tourists or demand fewer tourism services (below median), attract more tourists or demand more tourism services (above median), and for the full sample. The average value of *Log of Tourist Flows_{ij}* is almost 2.3 times higher for above median country group vis-à-vis below median country group. It also appears that above median country group is more likely to face different types of sanctions compared with those that are below median. They are also more likely to face partial trade sanctions compared to economies that are less internationally attractive in terms of tourism, while there is no preliminary evidence suggesting that top tourist destinations tend to face more ‘complete trade sanctions’ than those that are not.

The unconditional means also indicate that top tourist destinations tend to be richer, more populous, and engage in more international trade than destinations that attract fewer tourists. Similarly, origin countries

that demand more tourism services tend to be wealthier and more populous compared with those that are not. Top tourist destinations and origin countries may enjoy a competitive edge in terms of international tourist flows due to access to more wealth, more inhabitants, or greater engagement in international trade.

As shown in Table A3, the unconditional mean of the relative price for the top tourist destinations is relatively similar to countries that attract fewer tourists. In the absence of control for other relevant factors, it is therefore unclear if top tourist destinations tend to be more price competitive than those that are not.

Table A4 reports the correlation matrix showing that some variables have a slightly high correlation with the dependent variable. The results obtained based on the multicollinearity test, however, show no evidence of serious multicollinearity issue (see Table A5). The evidence no serious multicollinearity issue is more convincing based on multicollinearity test relative to the evidence from the pairwise correlation matrix.

5. Discussion of results

Table 1 presents the coefficients of several types of sanctions on tourist flows. As reported in Column 1, the coefficient of the ‘overall sanctions’ variable is negative and statistically significant. This indicates that tourist flows from the origin country to a destination country would be significantly lower if the origin country imposed any type of sanctions on the destination country compared with a destination that is not under sanction. Similarly, if the sender country imposed multiple sanctions, the tourist flows would be lower. This finding supports the evidence from studies in the extant literature showing that sanctions depress tourist flows due to disruptions of financial linkages and supply chains (Seyfi & Hall, 2020b).

The coefficients in Columns 2 and 3 indicate that tourist flow from the origin to a destination country would be 20.23% lower in the case of imposition of arms sanction or 8.46% lower if military sanctions were placed on the destination country by the origin country relative to country-pairs where no arms sanctions or military sanctions were imposed. These findings suggest that the imposition of arms or military

sanctions can reduce the destination's tourism attractiveness, hindering tourist flows. This is because arms or military sanctions can cause disruption in international trade due to restrictions imposed on the import and export of military goods and services and supply chain breakdown.

As shown in Column 4, tourist flows would be 16.97% lower if an origin country imposed a trade sanction on the destination country compared with country-pairs where no trade sanction was imposed. Similarly, as reported in Column 7, tourist flows are lower if the origin country imposed either partial or complete trade sanctions on a destination country than a country-pair where no such sanctions were imposed. As expected, the negative influence of complete trade sanctions surpasses that of partial trade sanctions. Tourist flows drop by around 44.57% if complete trade sanctions were imposed, whereas the drop in tourist flows would be about 6.76% in the case where partial trade sanctions were imposed.

In general, trade sanctions can take the form of import bans and/or export embargoes, and these sanctions act to limit the flow of goods between the sender and the target countries. The imposition of trade sanctions can potentially increase cross-border transaction costs and decrease trade volumes and business travel. One of the potential channels for trade sanctions to affect tourism flows is through disruption to business travel. This finding is partly in line with the evidence that ‘imposed sanctions’ dampen trade flows between the sender and its target (Afesorgbor, 2019).

As shown in Column 5, tourist flows would be 27.75% smaller if an origin country imposed a financial sanction on the target country relative to country-pairs where no financial sanctions were imposed. Financial sanctions tend to lead to disruption in the delivery of or access to financial services between the senders and targets, which in turn leads to lower financial flows between the parties. Financial sanctions may also limit access to international financing for sanctioned entities. A destination country experiencing financial sanctions may also lose its attractiveness as a tourist destination. This is because tourists are more likely to cancel, postpone, or reschedule their trips to non-sanctioned destination countries, as financial sanctions may make conducting

Table 1
Baseline regression – Effect of different types of sanctions on international tourist flows using FE estimator.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Overall sanction	Arms sanction	Military sanction	Trade sanction	Financial sanction	Travel sanction	Partial and complete trade sanctions
Sanctions	-0.0647*** (0.00856)	-0.226*** (0.0349)	-0.0884*** (0.0326)	-0.186*** (0.0485)	-0.325*** (0.0270)	-0.203*** (0.0319)	
Partial trade sanctions							-0.0700* (0.0378)
Complete trade sanctions							-0.590*** (0.0993)
Log of GDP per capita destination	0.465*** (0.0232)	0.470*** (0.0231)	0.469*** (0.0230)	0.469*** (0.0230)	0.468*** (0.0231)	0.464*** (0.0231)	0.469*** (0.0230)
Log of GDP per capita origin	0.492*** (0.0298)	0.495*** (0.0298)	0.496*** (0.0298)	0.492*** (0.0298)	0.487*** (0.0297)	0.493*** (0.0298)	0.494*** (0.0298)
Log of Population origin	0.345*** (0.0645)	0.355*** (0.0645)	0.357*** (0.0646)	0.348*** (0.0645)	0.329*** (0.0645)	0.349*** (0.0646)	0.355*** (0.0646)
Log of Population destination	-0.0856 (0.0636)	-0.0471 (0.0636)	-0.0647 (0.0639)	-0.0917 (0.0638)	-0.0935 (0.0637)	-0.0947 (0.0639)	-0.0756 (0.0639)
Log of bilateral Trade flows	0.0297*** (0.00256)	0.0297*** (0.00256)	0.0299*** (0.00256)	0.0298*** (0.00256)	0.0297*** (0.00255)	0.0298*** (0.00256)	0.0299*** (0.00256)
Change in log of relative price	0.0433** (0.0178)	0.0481*** (0.0179)	0.0601*** (0.0181)	0.0545*** (0.0180)	0.0500*** (0.0178)	0.0568*** (0.0179)	0.0614*** (0.0181)
Constant	-4.776*** (0.866)	-5.297*** (0.867)	-5.156*** (0.870)	-4.786*** (0.868)	-4.543*** (0.866)	-4.733*** (0.869)	-5.013*** (0.868)
Observations	159,657	159,657	159,657	159,657	159,657	159,657	159,657
R-squared	0.315	0.315	0.314	0.314	0.317	0.315	0.314
Number of pair	12,288	12,288	12,288	12,288	12,288	12,288	12,288
Country-pair FE	YES	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES	YES

Note: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

digital financial transactions more difficult and/or impossible. In general, the role of financial development in promoting tourism would be compromised in the presence of binding financial sanctions. This is in line with the evidence that financial development helps to enhance tourism flows (Khanna & Sharma, 2023), but destination countries experiencing financial sanctions may not fully leverage financial development as a tool to promote tourism flows.

Tourist flows would be 18.37% lower in a situation where an origin country imposed a travel sanction on a destination country compared with country-pairs where no travel sanctions were imposed (see Column 6). In general, travel sanctions place restrictions on the admission of targeted individuals into a country, such as the imposition of travel bans. Amidst binding travel bans, tourists would not be allowed to enter a destination country, even if they wish to do so.

In general, the coefficients of the control variables are in line with expectations. For instance, GDP per capita, regardless of whether it is for the destination or the origin country, exerts a positive influence on tourist flows (see Columns 1–7). This indicates that the supply and demand of tourism services will be greater if the destination or the origin

countries are wealthier (Khalid, Okafor, & Sanusi, 2021). Similarly, bilateral trade flows have a positive effect on bilateral tourist flows. This implies that a higher degree of involvement in a global economy through international trade acts to promote tourist flows.

Furthermore, the relative price positively affects tourist flows in all specifications (see Columns 1–7). This suggests that when prices in the destination country vis-à-vis the origin country are more competitive, it enjoys more tourist flows from the origin country, which is in line with the findings in the existing literature (see, e.g., Khalid et al., 2021; Okafor, Khalid, & Burzynska, 2022). Similarly, higher levels of population in the origin country result in greater tourist flows to the destination country. This implies that more populated origin countries demand more tourism services. On the other hand, there is insufficient evidence to suggest that the population of the destination country is a crucial factor in influencing tourist arrivals (see Columns 1–7). These results are consistent with the findings of the earlier literature indicating population of a destination country may have little or no impact on tourism flows (Okafor, Khalid, & Sooriyarachchi, 2023).

Table 2 reports the estimation results of Eqs. (2) and (3). Given that

Table 2
Contemporary and lagged effects of different types of sanctions on international tourist flows.

VARIABLES	Overall sanction	Arms sanction	Military sanction	Trade sanction	Financial sanction	Travel sanction
Panel A: Using no lag of sanction variable as the explanatory variable						
Sanctions	-0.0226*** (0.00634)	-0.136*** (0.0248)	-0.0729*** (0.0257)	-0.0533** (0.0228)	-0.0646*** (0.0161)	-0.0649** (0.0269)
Constant	6.481*** (0.00155)	6.482*** (0.00153)	6.479*** (0.00143)	6.478*** (0.00134)	6.480*** (0.00138)	6.479*** (0.00141)
Observations	250,760	250,760	250,760	250,760	250,760	250,760
R-squared	0.965	0.965	0.965	0.965	0.965	0.965
Panel B: Using the first lag of the sanction variable as the explanatory variable						
Sanctions _{t-1}	-0.0266*** (0.00655)	-0.123*** (0.0248)	-0.0661*** (0.0257)	-0.0670*** (0.0239)	-0.0662*** (0.0165)	-0.0757*** (0.0277)
Constant	6.475*** (0.00158)	6.476*** (0.00155)	6.473*** (0.00145)	6.472*** (0.00136)	6.473*** (0.00139)	6.473*** (0.00143)
Observations	244,696	244,696	244,696	244,696	244,696	244,696
R-squared	0.966	0.966	0.966	0.966	0.966	0.966
Panel C: Using the second lag of the sanction variable as the explanatory variable						
Sanctions _{t-2}	-0.0340*** (0.00677)	-0.153*** (0.0249)	-0.0899*** (0.0257)	-0.104*** (0.0249)	-0.0844*** (0.0172)	-0.101*** (0.0290)
Constant	6.471*** (0.00160)	6.472*** (0.00157)	6.469*** (0.00146)	6.468*** (0.00137)	6.469*** (0.00139)	6.469*** (0.00145)
Observations	238,005	238,005	238,005	238,005	238,005	238,005
R-squared	0.966	0.966	0.966	0.966	0.966	0.966
Panel D: Using the third lag of the sanction variable as the explanatory variable						
Sanctions _{t-3}	-0.0360*** (0.00711)	-0.151*** (0.0248)	-0.0981*** (0.0257)	-0.123*** (0.0259)	-0.103*** (0.0176)	-0.0978*** (0.0306)
Constant	6.470*** (0.00164)	6.470*** (0.00158)	6.467*** (0.00147)	6.467*** (0.00138)	6.467*** (0.00140)	6.467*** (0.00148)
Observations	230,554	230,554	230,554	230,554	230,554	230,554
R-squared	0.967	0.967	0.967	0.967	0.967	0.967
Panel E: Using the fourth lag of the sanction variable as the explanatory variable						
Sanctions _{t-4}	-0.0305*** (0.00754)	-0.110*** (0.0251)	-0.0730*** (0.0259)	-0.0927*** (0.0271)	-0.107*** (0.0185)	-0.0736** (0.0325)
Constant	6.470*** (0.00168)	6.470*** (0.00160)	6.468*** (0.00148)	6.467*** (0.00139)	6.469*** (0.00140)	6.467*** (0.00151)
Observations	222,806	222,806	222,806	222,806	222,806	222,806
R-squared	0.968	0.968	0.968	0.968	0.968	0.968
Panel F: Using the fifth lag of the sanction variable as the explanatory variable						
Sanctions _{t-5}	-0.0334*** (0.00791)	-0.104*** (0.0257)	-0.0716*** (0.0258)	-0.0775*** (0.0280)	-0.115*** (0.0193)	-0.0648* (0.0335)
Constant	6.475*** (0.00172)	6.474*** (0.00164)	6.472*** (0.00149)	6.472*** (0.00140)	6.473*** (0.00141)	6.472*** (0.00154)
Observations	214,515	214,515	214,515	214,515	214,515	214,515
R-squared	0.969	0.969	0.969	0.969	0.969	0.969

Note: Robust standard errors in parentheses. All regressions include country-pair FE, origin-time FE and destination-time FE. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

we controlled for MRTs in the estimations, model specifications in Eqs. (2) and (3) are our preferred models. As shown in Panel A of Table 2, Columns 1 to 6, all types of sanctions dampen bilateral tourist flows. The new estimates support the findings reported in Table 1, reinforcing the notion that different types of sanctions have a detrimental effect on tourist flows.

The negative impacts of several types of sanctions on tourism flows persist over time (see Panels B to F, Columns 1 to 6 of Table 2). The estimates suggest that the dampening effects of various types of sanctions on tourist flows persist for at least five years after their impositions. This finding is in line with the notion that sanctions can influence tourist flows directly in terms of depressing investment in tourism industry and affiliated industries, limiting individual mobility, and hindering international trade. Sanctions can also cause significant economic and personal hardship, weakening of the currency, and inflationary pressure. Indirectly, sanctions can limit industry access to foreign technology and equipment and thus lead to a deterioration of infrastructure and a negative destination image (Hall & Seyfi, 2021). The persistence of the negative impacts of different types of sanctions is partly associated with a negative destination image due to the imposition of sanctions.

5.1. Addressing endogeneity concerns

While the use of lagged values of the sanction indicators and the simultaneous inclusion of country-pair, destination-time, and origin-time fixed effects minimizes the risk of endogeneity arising from omitted variable bias and reverse causality, however, the issue of endogeneity cannot be ruled out completely. For instance, it can be argued that the imposition of sanctions is not completely exogenous as the information regarding the imposition of sanction is likely to be known beforehand, as the sender country first issues a threat of sanction before executing it. To address potential endogeneity concerns, we employ an instrumental variable approach.

To this end, we use the sender's aggressiveness as an instrument for imposed sanctions, similar to Kwon et al. (2022), who used this instrument to identify the impact of sanctions on economic growth. Sender's aggressiveness is calculated by summing the number of sanctions imposed by sender *i* in year *t* without the sanction on the specific target. In addition, to further control for endogeneity concerns, we use the lag value of the sender aggressiveness as an instrument. The motivation behind this instrument is that the sender's aggressiveness influences the likelihood that a sanction from sender *i* in year *t* would be imposed on a specific target, however, it is unlikely that the sender's overall aggressiveness would have a direct effect on the tourist arrivals to target country from the sender country.

To check the sensitivity of the parameter estimates to potential endogeneity issues as discussed above, we rerun the different model specifications using the Instrumental Variable Estimator. The country-pair fixed effects, the origin-time fixed effects, and destination-time fixed effects are controlled for in all the estimations. Table A6 reports the results of this exercise, with Panel A reporting the results when the contemporaneous value of the sender's aggressiveness is used as an IV, while Panel B reports the results when the lag value of the sender's aggressiveness is used as an IV. As shown in Columns 1 to 6, the different types of sanctions, including the overall indicator of sanction, have significant negative impacts on international tourist flows. These results are in line with the findings reported in Tables 1 and 2. This indicates that the coefficients are not particularly susceptible to endogeneity issues.

5.2. Evaluating the moderating effects of religious and geographical proximity

Table 3 presents the estimates of the moderating effects of religious and geographical proximity on the underlying relationships. As shown in Columns 1 to 6, Panel A, common religion can act to reverse the

Table 3

Exploring moderating effects of common religion, distance, and time difference on the underlying relationships while controlling for country-pair FE, origin-time FE and destination-time FE.

VARIABLES	(1) Overall sanction	(2) Arms sanction	(3) Military sanction	(4) Trade sanction	(5) Financial sanction	(6) Travel sanction
Panel A: Countries with a common religion						
Sanctions	-0.0254*** (0.00659)	-0.157*** (0.0266)	-0.106*** (0.0271)	-0.0828*** (0.0244)	-0.0709*** (0.0179)	-0.0737** (0.0294)
Sanctions × Common religion	0.0569*** (0.0154)	0.231*** (0.0740)	0.254*** (0.0703)	0.264*** (0.0806)	0.182*** (0.0573)	0.299*** (0.0727)
Constant	6.526*** (0.00158)	6.528*** (0.00159)	6.525*** (0.00147)	6.524*** (0.00137)	6.525*** (0.00140)	6.524*** (0.00144)
Observations	237,963	237,963	237,963	237,963	237,963	237,963
R-squared	0.966	0.966	0.966	0.966	0.966	0.966
Panel B: Countries are in close proximity (physical distance between countries is below the mean distance)						
Sanctions	-0.0389*** (0.00909)	-0.221*** (0.0342)	-0.133*** (0.0302)	-0.0381 (0.0366)	-0.117*** (0.0246)	-0.131*** (0.0411)
Sanctions × close	0.0224*** (0.00853)	0.106*** (0.0319)	0.0899*** (0.0287)	-0.0266 (0.0425)	0.0752*** (0.0287)	0.0730* (0.0380)
Constant	6.511*** (0.00157)	6.514*** (0.00154)	6.511*** (0.00145)	6.510*** (0.00135)	6.511*** (0.00140)	6.511*** (0.00143)
Observations	245,942	245,942	245,942	245,942	245,942	245,942
R-squared	0.965	0.965	0.965	0.965	0.965	0.965
Panel C: Country pairs a with time zone difference that is <3 h						
Sanctions	-0.0388*** (0.00868)	-0.211*** (0.0333)	-0.139*** (0.0281)	-0.0568* (0.0311)	-0.117*** (0.0238)	-0.0633 (0.0392)
Sanctions × time difference	0.0244*** (0.00803)	0.110*** (0.0305)	0.123*** (0.0285)	0.00529 (0.0391)	0.0804*** (0.0274)	0.0114 (0.0354)
Constant	6.479*** (0.00155)	6.482*** (0.00153)	6.479*** (0.00144)	6.478*** (0.00134)	6.480*** (0.00138)	6.479*** (0.00141)
Observations	250,760	250,760	250,760	250,760	250,760	250,760
R-squared	0.965	0.965	0.965	0.965	0.965	0.965

Note. Robust standard errors in parentheses. All regressions include country-pair FE, origin-time FE and destination-time FE. *** p < 0.01, ** p < 0.05, * p < 0.1.

negative effects of various types of sanctions – i.e., the negative impact of sanctions can be reversed for a country-pair with a higher value of common religion index (i.e., a large proportion of the population in both countries share a common religion). This is because the interaction terms between the common religion index and different types of sanctions are positive, statistically significant, and greater than the coefficients of different types of sanctions.

To put things into perspective, let us consider a hypothetical scenario with three countries A, B, and C. Assume that the value of the common religion index between countries A and B is 0.9 and between countries A and C is 0.1. In this scenario, if country A imposes an arms sanction on both countries B and C, then country B would attract about 18.5% more tourist flows from country A compared with country C. Likewise, if country A imposes a military sanction on both countries B and C, country B would attract around 20.3% more tourists from country A vis-à-vis country B. In the presence of trade sanctions from country A on countries B and C, country B would attract around 21.1% more tourist flows compared to country B. Imposition of financial sanction by country A on countries B and C would result in 14.6% more tourist flows from country A to B compared to country A and C. Additionally, in the presence of a travel sanction, country B would receive around 23.9% more tourist flows from country A compared with tourist flows from country A to C. This suggests that the application of sanctions does not substantially dilute the motivations for religious travel if a country pair has a higher value of the common religion index. These findings are in line with the idea that religion has been one of the key motives for travel—both within and across borders. Several top tourist spots have emerged because of their links to sacred sites, events, and individuals (Timothy & Olsen, 2006).

As reported in Columns 1 to 6, Panel B, geographical proximity can also attenuate the negative impact of arms, military, financial, and travel sanctions, except for trade sanctions. The negative impacts of arms, military, financial, and travel sanctions are smaller for country-pairs that are near one another compared with those that are not. It is worthwhile to note that the impact of distance in attenuating the negative effects of different types of sanctions is less pronounced compared with sharing a common religion. This implies that country-pair needs to be quite close in terms of distance for geographical proximity to play a role. Overall, the parameter estimates indicate that the effects of arms, military, financial and travel sanctions augmented by close geographical proximity are positive and statistically significant. The effect of trade sanctions augmented by close geographical proximity is not statistically significant.

More specifically, the impact of arms sanctions, augmented by close geographical proximity, helps a destination country to attract about 32.7% more tourist flows compared with a destination country that is not geographically close. The impact of military sanctions, augmented by close geographical proximity, helps a destination country to gain around 22.3% more tourist flows relative to a destination country that is not geographically close. Similarly, the effect of financial sanction augmented by the close geographical proximity helps a destination country to benefit from about 19.2% more tourist flows than a destination country that is not geographically close.

In addition, the effect of travel sanctions augmented by the close geographical proximity helps a destination country to attract 20.4% more tourist flows relative to a destination country that is not geographically close. These findings reinforce the notion that distance is a crucial determinant of international tourism flows. The shorter the geographical distance between a country-pair, the larger the volume of tourist flows. In general, longer distances are costly in terms of time and money, and this acts to reduce tourist flows from the origin to the destination country (Boniface, Cooper, & Cooper, 2020).

As shown in Columns 1 to 6, Panel C, smaller time zone differences can reduce the negative impacts of arms, military, and financial sanctions, but not for trade or travel sanctions. Analogous to the moderating influence of distance, the impact of smaller time zone differences in

reducing the negative impacts of arms, military, and financial sanctions is less pronounced relative to that of sharing a common religion.

The impact of arms sanctions, augmented by the smaller time zone difference, helps a destination country attract about 32.1% more tourist flows compared with a destination country that is not close in terms of time zone difference. Similarly, the impact of military sanctions augmented by smaller time zone difference helps a destination country to benefit from around 26.2% more tourist flows than a destination country that is not close in terms of time zone difference. Moreover, the impact of financial sanctions, augmented by a smaller time zone difference, helps a destination country to gain about 19.7% more tourist flows compared with a destination country that is not close in terms of time zone difference. These findings help to confirm earlier evidence suggesting that time zone difference has a significant dampening effect on tourist flows (Czajka & Neumayer, 2020).

5.3. Robustness checks

While the results reported above have established that sanctions have a negative impact on international tourist inflows, these results might be susceptible to heteroscedasticity and bias arising from zero and/or missing tourist flows while estimating the structural gravity model. Although, as reported in Table A1, the issue of zero flows is not acute in our setting as country-pairs reporting zero tourist flows or having a missing value is negligible in our sample, nevertheless, we further establish the robustness of our results by estimating our empirical models using the PPML estimator, which corrects for heteroscedasticity and bias arising from zero flows (Rossello Nadal & Santana Gallego, 2022). The results obtained with the use of the PPML estimator are shown in Tables A7 and A8. Table A7 presents the parameter estimates when the model in Eq. (1) is estimated with the PPML estimator while controlling for country-pair fixed effects and year fixed-effects. Whereas Table A8 presents the parameter estimates of a variation of the model as specified in Eq. (2), where we control for MRTs by including origin-time and destination-time fixed effects, while excluding country-pair fixed effects.

The estimates of the variables of interest are largely in line with previous estimates, with two exceptions. The results show that different types of sanctions, such as arms, military, complete trade, financial, and travel, have significant dampening effects on tourist flows. The coefficient of the overall sanction indicator remained negative and statistically significant. In Table A7, the effects of military and partial trade sanctions are negative, but they are, however, statistically insignificant. Whereas in Table 8, the coefficient of partial trade sanctions is positive and statistically significant. This indicates that for the partial trade sanctions, the effect on tourist flows is not particularly robust. In sum, these results suggest that different types of sanctions have detrimental effects on tourist flows, but the negative effects of some sanctions may be more robust than others, based on the parameter estimates from the PPML estimator.

6. Conclusion

This study explores how various types of sanctions affect tourist flows from sender to the sanctioned country. To this end, this study uses gravity panel data consisting of 16,557 country-pairs (203 origin and 189 destination countries) from 1995 to 2018. This study contributes to the existing body of literature on the factors that influence tourist flows by being the pioneering large cross-country study to provide empirical evidence on the effects of various types of sanctions on tourist flows. In addition, this study contributes to the literature by providing evidence of the moderating influences of geographical and religious proximity on the underlying relationships. The findings demonstrate the importance of accounting for physical and religious proximity between the sender and sanctioned state when investigating the effects of sanctions on tourist flows.

The results indicate that sanctions – irrespective of the type – have a negative impact on tourist flows from the sender to the sanctioned country. However, our results also suggest that the negative effects of sanctions on tourist flows can be attenuated largely by physical and cultural proximity. As such, our findings add empirical evidence about the factors that can dampen the effectiveness of sanctions.

The findings of this study underscore the effectiveness as well as the unintended consequences of sanctions as a foreign policy tool. For instance, the application of sanctions exerts economic pressure on sanctioned countries following a sharp drop in international tourist flows. This, in turn, leads to a reduction in foreign exchange earnings from the tourism sector. As highlighted by earlier studies, it is worthwhile to acknowledge that sanctions may achieve their targets, albeit at a high cost (Seyfi & Hall, 2020b). For instance, sanctions can create a humanitarian crisis in the sanctioned country or lead to unsustainable production processes and the disempowerment of women, especially in the tourism sector.

The findings of this study have both theoretical and practical implications. Regarding the theoretical implication, the findings of this study provide the rationale for theoretical models to be extended by incorporating the moderating roles of common religion and geographical distance on the underlying relationship. This is because a country experiencing sanctions can use common religion and/or geographical distance strategically to mitigate the negative impacts of sanctions to a varying degree.

Regarding the practical implications of the study, governments and international organizations should consider targeted sanctions that focus on specific individuals or entities responsible for specific actions or behaviors rather than imposing blanket sanctions that affect all sectors of a target country's economy to avoid the unintended consequences of sanctions. This approach can minimize the negative impacts of sanctions on the tourism industry and other sectors that are not directly involved in the actions or behaviors that are being targeted. The approach is referred to as 'smart sanctions' that target directly political leaders or bad actors in the targeted country, while leaving the innocent individuals, including those that work in the tourism industry unaffected. For instance, the target can include seizing the personal assets of political leaders abroad, and freezing of personal financial assets and investments, among others.

Furthermore, governments and international organizations should consider exemptions for humanitarian purposes, such as allowing travel for medical treatment or for journalists to cover events in a target country. Governments and international organizations should consider engaging more in public diplomacy instead of imposing sanctions. For instance, governments and international organizations should consider alternative approaches to achieving their goals, such as diplomatic efforts or targeted economic measures that do not have significant negative impacts on the tourism industry and the affiliated sectors. For instance, travel sanctions can target political leaders and/or other bad actors, while excluding innocent civilians including those that work in the tourism industry. The sender can provide a list containing the names of actors affected by the sanctions to avoid any ambiguity, especially during the implementation of the sanctions.

Tourism businesses and stakeholders can counter the negative impacts of sanctions by diversifying the tourism markets. A tourism company that attracts tourists from multiple markets is insulated to some extent from the negative impacts of sanctions if one of the tourism markets imposes devastating sanctions. In contrast, a tourist company that depends mainly on one market would not be shielded from the negative impacts of sanctions if the sender is the main source market for tourists.

Our results also highlight some factors that can potentially mitigate the adverse impacts of sanctions on tourist flows, such as physical and cultural proximity. Hence, sanctioned countries should focus on promoting tourism to physically and culturally similar countries. This can be achieved through targeted international marketing campaigns. This

approach to advertising of tourism services would minimize costs while raising profits through increased patronage from physically and culturally similar countries induced by the targeted international campaigns. Similarly, sanctioned countries should focus on targeting new markets that have not imposed sanctions on the country, especially with those they have better diplomatic relationships. The findings of this study suggest that policymakers and relevant stakeholders can introduce policies that minimize the unintended effects of sanctions on tourism flows, such as targeted international marketing campaigns that strategically use common religion and geographical proximity to mitigate the negative effects of sanctions. Hence, the fiscal authorities can promote tourism to physically and culturally similar countries as well as countries that are unlikely to impose sanctions on them. This approach would be of benefit to the tourism industry in a destination country in the presence of sanctions.

Furthermore, sanctioned countries can also leverage targeted policies to revive the tourism sector, especially in the light of the COVID-19 pandemic, as it was similar in nature to travel sanctions, given that tourists were not able to cross international borders. This may include promoting domestic tourism by encouraging people to travel within their own countries, which can help to boost the tourism industry and support local businesses. Additionally, government authorities can use fiscal and monetary policies to support the tourism industry during a sanction episode. These policies include cash transfers, tax reliefs, grants, loan guarantees, easier access to credit and liquidity, a lower interest rate, and payroll support, and so on.

Sanctioned countries can focus on investment in technology such as virtual reality to create interest in their tourist attractions even in the absence of physical presence in the destination countries. Reducing uncertainty by allowing tourists to cancel or reschedule their trips without penalties can help to increase confidence in the tourism industry and encourage people to book travel in advance. Additionally, sanctioned countries can focus on promoting alternative types of tourism, such as outdoor or adventure tourism and cultural tourism, which may be more appealing during times of political instability or economic uncertainty, such as during the sanction episode.

While this study provides robust evidence that sanctions depress tourist flows, it is not without limitations. First, due to data availability, this study uses only pre-pandemic tourist flow data. However, as underscored by several studies, tourist behavior has changed during the pandemic (Li, Nguyen, & Coca Stefaniak, 2021), making it plausible that the results of this study may be slightly different from the ones reported based on post-pandemic data. The chances of this happening are slim because our sample period includes several economic crises and health shocks that potentially affected travel behavior as well. Second, there are likely other moderating factors other than religious and geographical proximity that can attenuate the impacts of various types of sanctions on tourist flows. Future research can explore if there are other possible moderating factors on the links between different types of sanctions and tourist flows.

CRediT authorship contribution statement

Usman Khalid: Writing – review & editing, Writing – original draft, Methodology, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Luke Okafor:** Writing – review & editing, Writing – original draft, Investigation, Conceptualization. **Katarzyna Burzynska:** Writing – review & editing, Writing – original draft, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.annale.2024.100143>.

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