International Tourism and Local Religiosity

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Motivation I - Global Integration: Convergence or Cultural Fragmentation?

- Does exposure to other cultures make societies more alike or more different?
- Two competing views :
  → Convergence: Mobility and prosperity foster shared, secular, universal values (Inglehart & Welzel, 2005)

  → Fragmentation: Exposure to different norms can reinforce local identities. Beliefs are shaped through comparison with salient "others" (Akerlof & Kranton, 2000; Guiso et al., 2006; Bisin & Verdier, 2001a)

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  → Fragmentation: Exposure to different norms can reinforce local identities. Beliefs are shaped through comparison with salient "others" (Akerlof & Kranton, 2000; Guiso et al., 2006; Bisin & Verdier, 2001a)
- Mechanism: Contact theory and social psychology:
  - Superficial or low-intensity exposure with culturally distant groups → activates identity boundaries → leads to reaffirmation of norms rather than assimilation (Allport, 1954, Tajfel & Turner, 1979; Turner et al., 1987; Brewer, 1991; Pettigrew & Tropp, 2006)
  - Contact hypothesis: Intergroup interaction reduces prejudice when there are meaningful interactions (Schiappa et al 2005; Atwell Seate & Mastro, 2016)

Motivation II

- Culture is sticky but also adapts in response to shifts within socio-economic and institutional frameworks (Giavazzi et al, 2019; Giuliano and Spilimbergo, 2023a)
- Culture has been studied in relation to several dimensions of globalization, each involving **intergroup interactions**

Motivation II

- Culture is sticky but also adapts in response to shifts within socio-economic and institutional frameworks (Giavazzi et al, 2019; Giuliano and Spilimbergo, 2023a)
- Culture has been studied in relation to several dimensions of globalization, each involving **intergroup interactions**
  - Migration (i.e., Melki et al, 2024, Klasing et al, 2023, Rapoport et al, 2020, Docquier et al, 2020, Nikolova et al., 2015, among many others)
  - Trade (Guiso et al, 2003)
  - GDP (Beugelsdijk, 2019)
  - ...
  - Tourism ?
- Why tourism? Physical proximity but repeated, shallow, asymmetric, **exposure** between local populations and international tourists, very different from meaningful native-migrant interactions
- Exposure with no meaningful contact can generate a feeling of threat and trigger a backlash by galvanizing individuals predisposed fears.

Motivation III

- Tourism is a major and widespread economic force
  - Global tourism revenues reached $10.9 trillion in 2024 (10% of global GDP)
  - Approximately 1.3 billion international tourist arrivals per year
  - 1 in 10 jobs worldwide are related to tourism
  - In some countries, tourism accounts for 10-15% of GDP (e.g., Greece: €21.7 billion, 13% of GDP)
  - In many destinations, the number of tourists **matches or exceeds the local population**

Research Question

- **Research question:** Does this massive exposure act as a source of cultural change between and within countries?
- Does it lead to divergence or convergence in culture?
- The analysis develops in three layers:
  (1) cross-country,
  (2) regional variation within the country, and,
  (3) individual variation over time in response to tourism.

Exposure and Religiosity

- **Exposure with no meaningful contact**: in political science two papers i.e. Hangartner et al., 2018 and Dinas et al., 2019; in Economics one paper Steinmayr 2021.
- The three papers on refugee exposure and political attitudes
- Only exposure with no meaningful contact generates a feeling of threat and triggers backlash through galvanizing individuals predisposed fears (Sniderman, Hagendoorn, Prior, 2004).

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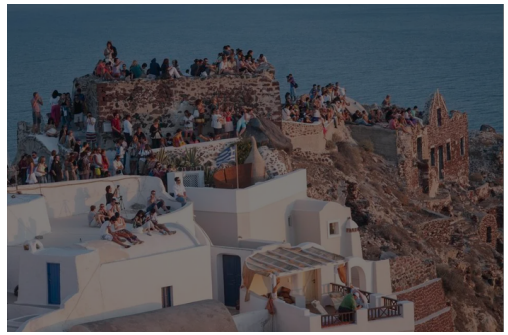
- We investigate effects on religiosity. Why religiosity?
  - Religiosity is often highly visible and immediately legible (dress, rituals, food practices)
  - Religion provides clear symbolic boundaries and moral structures under external exposure (modesty, family, behavior)
  - Religion provides a low-cost, high-visibility way to signal cultural continuity in the face of globalization.
  - Religion adapts at the individual level without institutional change

More concretely, let me unpack it

- Who sees what
- What kind of encounter and for how long
- What cognitive reaction follows
- What behavior changes
- How those repeated small reactions aggregate into our measured outcomes



More concretely, let me unpack it

News

‘Don’t swear and cover up’: Bali announces strict new rules for tourists

To protect the island’s ‘cultural integrity and sacred sites’ restrictions on clothing and behaviour have just been announced by Bali’s governor

Written by Liv Kelly
Travel Writer
Friday 28 March 2025

Share

Photograph: Shutterstock

Exposure sharpens boundaries

- Tourists are **seen, compared, but not socially integrated**
- Typical situation:
  - Locals in Spain or Greece are exposed to tourists daily
  - Repeated exposure to different norms, but interactions remain brief, transactional, and asymmetric
- Visibility comes **before familiarity**
  - Differences are observed repeatedly
  - But not contextualized through deeper relationships
- $\Rightarrow$ Differences are interpreted as **group-level contrasts** rather than individual variation

Our analysis

- Part I: Tourism and shifts in religious beliefs across countries (within-country-pair variation)

→ When two countries become more connected via tourism flows, do they become more or less similar in religiosity?

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→ When two countries become more connected via tourism flows, do they become more or less similar in religiosity?

- Part II: Tourism and shifts in religious beliefs within countries (difference-in-differences).

→ When people living in a region become more exposed to international tourism due to low-cost carrier entry in the nearby airport, do they differ from their historical local religiosity norms?

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→ When people living in a region become more exposed to international tourism due to low-cost carrier entry in the nearby airport, do they differ from their historical local religiosity norms?

- Part III: Tourism and shifts in religious beliefs at the individual level.

→ Does greater exposure to tourism increase heterogeneity in religiosity across individuals within the same country?

→ Do people become more secular or more religious ?

Literature (1)

- **Tourism flows and economic performance:** Sinclair (1998); Dwyer et al. (2000); Balaguer and Cantavella-Jordá (2002); Lee and Chang (2008); Nowak et al. (2007); Selvanathan et al. (2012); Brida et al. (2014); Gooroochurn and Sinclair (2005).
- **Tourism, infrastructure, and regional disparities:** Agénor and Neanidis (2011); Cárdenas-García et al. (2015); Fayissa et al. (2008); Aramberri (2009).
- **Tourism and environment:** Gössling and Hall (2006); Zhou et al. (2007).
- **Tourism, institutions, social capital, criminality, etc.:** Sequeira and Nunes (2008); Arezki et al. (2009); Knollenberg et al. (2019); Biagi and Detotto (2014).

Literature (2)

- **Religiosity and economic outcomes:** Alesina et al. (2001); Barro and McCleary (2003); Guiso et al. (2003); Scheve and Stasavage (2006); Squicciarini (2020), Becker et al. (2024), Lowes et al. (2026), among others
- **Religiosity, institutions, human capital, and transmission of cultural norms:** Becker and Woessmann (2009); Campante and Yanagizawa-Drott (2015); Bisin et al. (2004); Hungerman (2014); Alesina and Giuliano (2015); Giavazzi et al. (2019), Bazzi (2020, 2025 forthcoming)
- **Determinants of religiosity:** Buser (2015); Bentzen (2019); Arold et al. (2022).
- **Literature gap:** Lack of research in economics on how tourism shapes cultural outcomes, social attitudes, and beliefs – both across countries (and within-country pair variation) and within countries over time – and subsequent influences on societal factors.

Data

Integrated Values Surveys (IVS)

- Individuals born in the country or citizens
- Coverage: up to 118 countries worldwide
- Five survey waves spanning 1989–2020
  - 1989–1993 (EVS2, WVS2)
  - 1994–1998 (WVS3)
  - 2005–2010 (EVS4, WVS5)
  - 2010–2014 (WVS6)
  - 2017–2020 (EVS5, WVS7)

Main variables

- Importance of God in life (1–10 scale)
- Belief in God (1 = yes, 0 = no)
- Religious self-identification (religious / not religious / atheist)

Religiosity change in a bilateral setting

- For each survey wave t, we calculate the country-level average of each religiosity variable, for each pair of countries of origin and country of visit

$$D_{ijt} = |R_{it} - R_{jt}|$$

- Time-varying measure of religiosity (dis)similarity for a large number of country pairs.
- This Euclidean distance measures the change or the (dis)similarity of magnitudes of religious beliefs (R) between any pair of countries (ij) over time (t).
- The distance is standardized (mean = 0, SD = 1).

Bilateral variables

Tourism variable:

- Bilateral tourist flows from the World Tourism Organization (UNWTO) database

Control variables:

- Bilateral trade flows, bilateral migration stocks, and GDP differences per capita

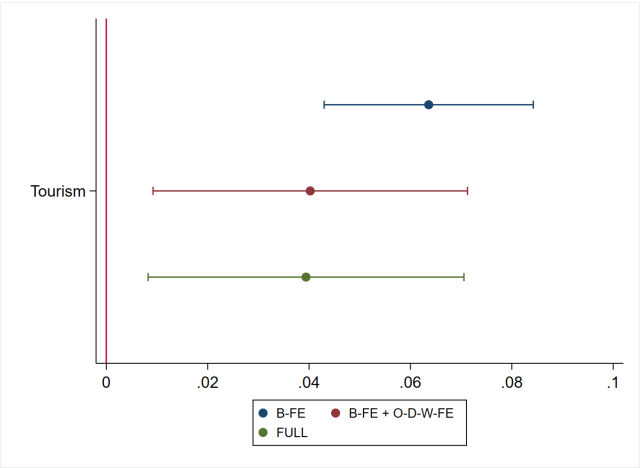
Bilateral Specification

- Bilateral panel framework:

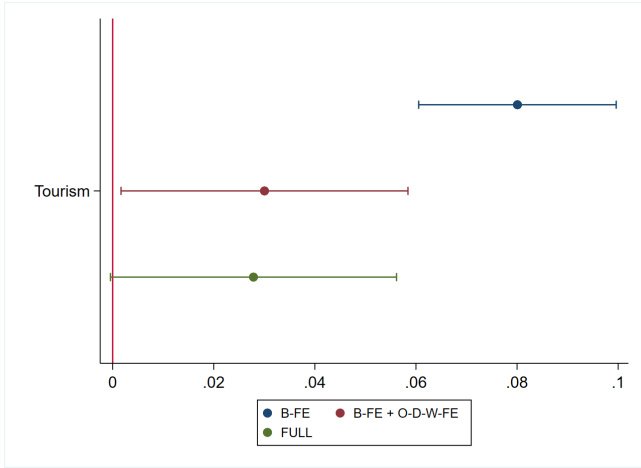
$$D_{ijt} = \alpha_0 + \alpha_1 TA_{ij,t-1} + \beta X_{ij,t-1} + \theta_{ij} + \theta_{it} + \theta_{jt} + \varepsilon_{ijt}$$

- D_{ijt}: distance between the average level of religious beliefs demonstrated in the pair of countries ij at the survey wave t
- $TA_{ij,t-1}$: bilateral tourism flows namely the natural logarithm of the number of tourist arrivals from country i to j
- $X_{ij,t-1}$: the vector of by country pair control variables
- θ_{ij}, θ_{it}, and θ_{jt} represent country-pair and country-time fixed effects, respectively
- ε_{ijt} is an i.i.d. error term, with standard errors clustered at the country-pair level.
- a 1% increase in tourist arrivals changes the religiosity distance between them by α_1 standard deviations.

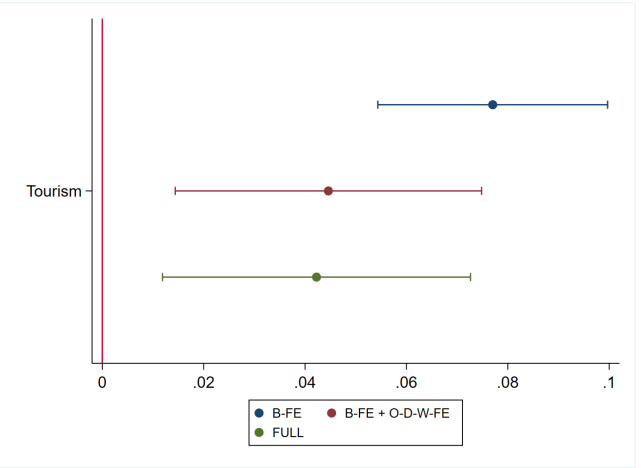
Main results



How important is God in you life



Believe in: God



Religious person

	How important is God in your life			Believe in: God		
	(1)	(2)	(3)	(4)	(5)	(6)
Tourism	0.064***	0.040**	0.039**	0.080***	0.030**	0.028*
	(0.011)	(0.016)	(0.016)	(0.010)	(0.014)	(0.014)
Bilateral FE	Yes	Yes	Yes	Yes	Yes	Yes
Dest.-time FE	No	Yes	Yes	No	Yes	Yes
Orig.-time FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	No	Yes
Obs.	7,196	7,196	7,196	6,862	6,862	6,862
R-squared	0.020	0.338	0.338	0.034	0.409	0.410
	Religious person			Principal component		
	(7)	(8)	(9)	(10)	(11)	(12)
Tourism	0.077***	0.045***	0.042***	0.074***	0.041***	0.040***
	(0.012)	(0.015)	(0.015)	(0.009)	(0.013)	(0.013)
Bilateral FE	Yes	Yes	Yes	Yes	Yes	Yes
Dest.-time FE	No	Yes	Yes	No	Yes	Yes
Orig.-time FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	No	Yes
Obs.	7,228	7,228	7,228	6,862	6,862	6,862
R-squared	0.017	0.476	0.476	0.033	0.392	0.392

Notes: Standard errors in parentheses clustered at the bilateral (pairs) level. To allow for a delayed effect, we lag all independent variables by one period. Significance level is denoted by *** (1%), ** (5%) and * (10%).

Heterogeneity: proximity

- **Baseline finding**: Tourism $\rightarrow$ divergence in religious beliefs
- We examine whether this relationship depends on how close the pair of countries is.
- Dimensions of closeness include:
  - **Geographic proximity** (contiguity),
  - **Cultural similarity** (common religion index),
  - **Historical ties** (shared colonizer or sibling relationship),
  - **Institutional similarity** (common legal origins).
- For country pairs that are **closer** in terms of geography, culture, history, or institutions, one might expect the influence of bilateral tourism on religiosity divergence to be **less pronounced**, with the possibility of moving toward **convergence in belief patterns**.
- For country pairs that are **more distant** along these dimensions, it is plausible that tourism could **reinforce divergence** in religiosity shifts.

How important is God in your life	Contiguous	Common religion index	Sibling relationship	Common legal origins
Tourism	0.054***	0.053***	0.049***	0.058***
	(0.017)	(0.017)	(0.016)	(0.017)
Interaction Term	-0.067***	-0.109**	-0.064**	-0.047***
	(0.022)	(0.050)	(0.028)	(0.017)
Believe in: God	Contiguous	Common religion index	Sibling relationship	Common legal origins
Tourism	0.048***	0.049***	0.033**	0.049***
	(0.014)	(0.015)	(0.015)	(0.015)
Interaction Term	-0.089***	-0.172***	-0.032**	-0.053***
	(0.023)	(0.055)	(0.016)	(0.017)
Religious person	Contiguous	Common religion index	Sibling relationship	Common legal origins
Tourism	0.052***	0.049***	0.046***	0.061***
	(0.017)	(0.017)	(0.016)	(0.017)
Interaction Term	-0.046*	-0.048	-0.021	-0.050***
	(0.024)	(0.046)	(0.024)	(0.018)
Principal component	Contiguous	Common religion index	Sibling relationship	Common legal origins
Tourism	0.056***	0.056***	0.046***	0.060***
	(0.014)	(0.014)	(0.014)	(0.014)
Interaction Term	-0.071***	-0.131***	-0.039**	-0.051***
	(0.021)	(0.047)	(0.019)	(0.016)

Notes: Standard errors in parentheses clustered at the bilateral (pairs) level. The full set of fixed effects and controls is included in each model. Significance level is denoted by *** (1%), ** (5%) and * (10%).

Do the effects reflect changes in personal faith, or shifts in the social and institutional aspects of religion?

	How often do you attend religious services		
	(1)	(2)	(3)
Tourism	0.016	0.024	0.022
	(0.010)	(0.016)	(0.016)
Bilateral FE	Yes	Yes	Yes
Dest.-time FE	No	Yes	Yes
Orig.-time FE	No	Yes	Yes
Controls	No	No	Yes
Obs.	7,206	7,206	7,206
R-squared	0.001	0.304	0.305
	Pray to God outside of religious services		
	(4)	(5)	(6)
Tourism	0.073***	0.051**	0.047*
	(0.015)	(0.024)	(0.024)
Bilateral FE	Yes	Yes	Yes
Dest.-time FE	No	Yes	Yes
Orig.-time FE	No	Yes	Yes
Controls	No	No	Yes
Obs.	2,809	2,809	2,809
R-squared	0.026	0.398	0.400

Notes: Standard errors in parentheses clustered at the bilateral (pairs) level. To allow for a delayed effect, we lag all independent variables by one period. Significance level is denoted by *** (1%), ** (5%) and * (10%).

Robustness & Additional Analyses

Main analysis

- Our results remain consistent when using alternative religious-belief and religion-related variables.
- Alternative distance metric: Canberra distance

$$\frac{|R_{it} - R_{jt}|}{|R_{it}| + |R_{jt}|}$$

- The results are also robust when including all individuals, rather than restricting the sample to those who were born in the country or are citizens of it.

Heterogeneity (individual-level characteristics)
By religious denomination, gender, size of town of residence, income, age, and education.

Parts of the empirical analysis

- Part I: Tourism and shifts in religious beliefs across countries (within-country-pair variation)
- **Part II: Tourism and shifts in religious beliefs within countries (DiD)**
- Part III: Tourism and shifts in religious beliefs at the individual level

Data: Proxy for tourism (1)

Tourism as a potential source of exogenous variation

- To study how tourism influences within-country shifts in religious beliefs, we exploit the entry of low-cost carriers (LCCs) at airports as a plausibly exogenous shock to tourism flows.
- The arrival of LCC services substantially reduces travel costs, increases flight frequency, and broadens accessibility for international tourists.
- These changes are typically driven by airline business strategies and market expansion rather than local religiosity trends, making them a suitable "proxy" for tourism exposure.
- Thus, LCC entry can be interpreted as an exogenous increase in inbound tourism intensity for residents of region r.

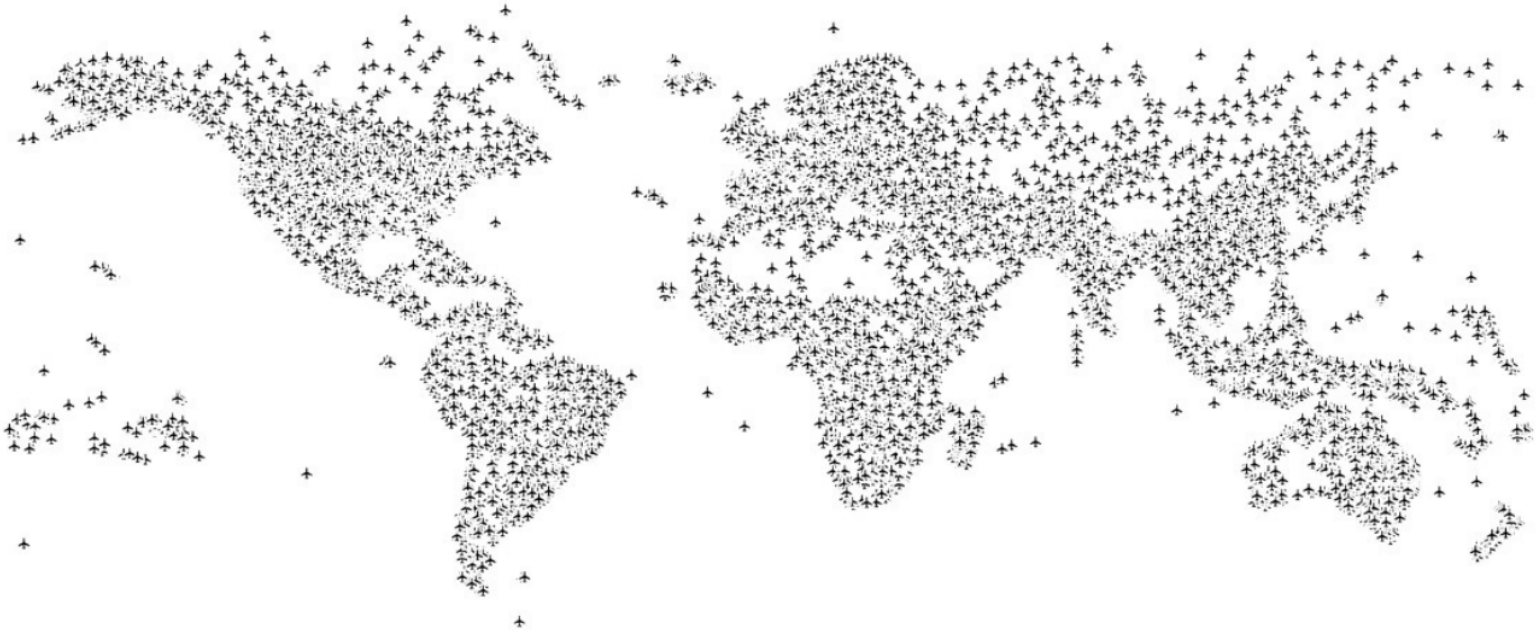
Proxy for tourism (2)

- "Traffic by Flight Stage" (TFS) dataset from the International Civil Aviation Organization (ICAO), for the period between 1989 and 2021:

→ **number of flights** operated to each available airport (city and country name)

- Match each **airport** with a **region** r across the world (GADM ADM1 Subnational World Districts or regions).
- A dummy variable (0/1) indicating whether region r has a low-cost carrier (LCC).

Airports worldwide



Data

Integrated Values Surveys (IVS)

- Individuals born in the country or citizens
- Coverage: up to 118 countries worldwide
- As earlier, five survey waves spanning 1989–2020
- Religiosity measured across Subnational World Districts or regions

Main variables

- Importance of God in life (1–10 scale)
- Belief in God (1 = yes, 0 = no)
- Religious self-identification (religious / not religious / atheist)

Religiosity change within countries

- We construct an individual-level distance measure
- Euclidean distance assesses the distance between the level of religious beliefs demonstrated by an individual n, currently residing in region r, during the survey wave t, and the average level of religious beliefs observed among individuals who were captured during the first wave of the survey, denoted as $\underline{t}$, $(\underline{t} < t)$.

$$DD_{nrt} = \left| R_{nrt} - \overline{R}_{r\underline{t}} \right|$$

- The distance is standardized (mean = 0, SD = 1).

Control variables

- **Individual-level controls:** sex, age, marital status, children, education, employment status, income, religious denomination.
- **Regional-level controls:** gross regional product, population, net migration.

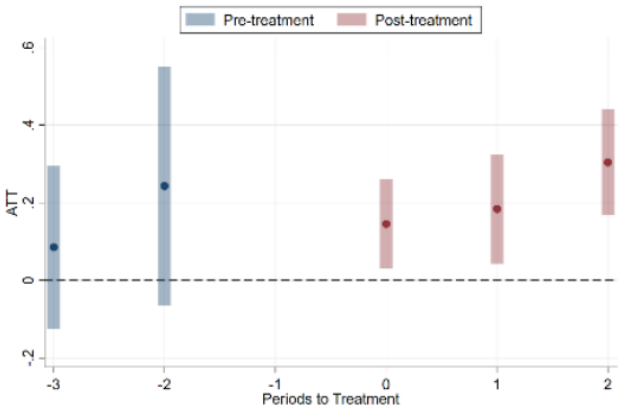
Diff-in-Diff specification

Difference-in-differences design with staggered treatment adoption to examine how the entry of a low-cost carrier (LCC) in region r influences religious beliefs compared to never-treated regions:

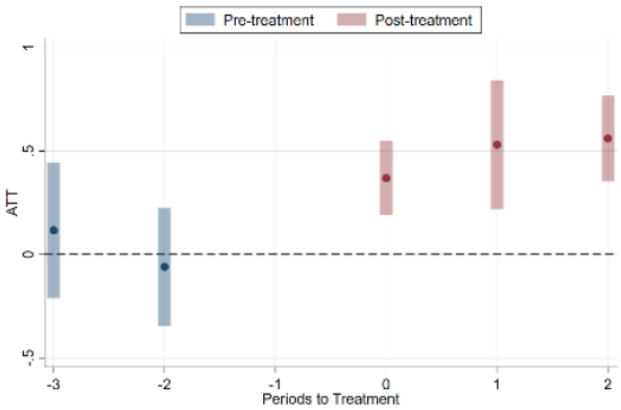
$$DD_{nrt} = \alpha_0 + \alpha_1 LCC_{rt} + \alpha_2 Post_{rt} + \alpha_3 (LCC_{rt} \times Post_{rt}) + \beta X_{nt} + \gamma Z_{rt} + \phi_r + \lambda_t + \varepsilon_{nrt}$$

- DD_{nrt} distance in religious beliefs for individual n, residing in region r, at survey wave t
- LCC_{rt} equals 1 if region r has LCC service in wave t, and 0 otherwise
- $Post_{rt}$ 1 if region r is observed in a survey wave after LCC service begins in that region, and 0 otherwise
- The interaction $LCC_{rt} \times Post_{rt}$ captures the treatment effect of LCC entry
- X_{nt} and Z_{rt} are individual- and regional-level controls.
- ϕ_r and λ_t denote fixed effects for region and year, respectively.

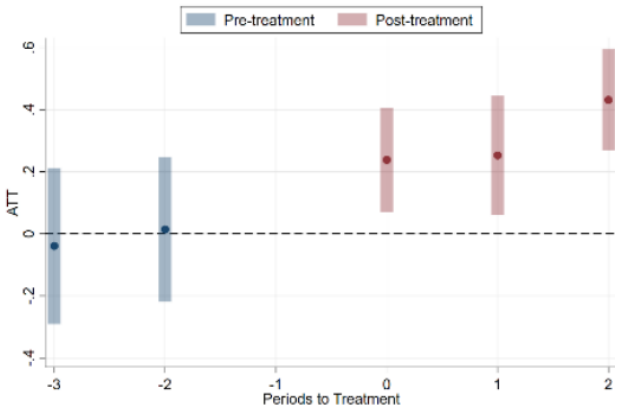
Event study plots: The useful diagnostic of the identifying assumptions & Results



How important is God in your life



Believe in: God



Religious person

Parts of the empirical analysis

- Part I: Tourism and shifts in religious beliefs across countries (within-country-pair variation)
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- **Part III: Tourism and shifts in religious beliefs at the individual level**

Data

German Socio-Economic Panel (GSOEP)

- Individual-level panel dataset
- SOEP-Core v39eu (1984–2022)
- 16 NUTS1 regions

Main variables used

- Church attendance
- How religious are you
- Headscarf in public for religious reasons
- Food regime for religious reasons

→ Higher values indicate lower religiosity.

Religiosity change – Germany

- The first measure is an intertemporal religiosity distance that parallels the concept employed in the Diff-in-Diff:

$$GD_{nrt} = \left| R_{nrt} - \overline{R}_{r\underline{t}} \right|$$

- This Euclidean distance assesses the distance between the level of religious beliefs demonstrated by an individual n, currently residing in region r, during the survey year t, and the average level of religious beliefs observed among individuals who were captured during the first year of the survey, denoted as $\underline{t}$.

$$\Delta R_{nrt} = R_{nrt} - \overline{R}_{r\underline{t}}$$

- The direction of deviation relative to the same historical baseline. This allows us to explore if religiosity increases or decreases as a result of higher exposure

Covariates

NUTS1-level
Tourism variable:

- Arrivals from foreign countries at tourist accommodation establishments from Eurostat (NUTS1 level)
- Number of nights spent at the destination (robustness)

Individual-level:

- sex, age, marital status, children, education, employment status, income, religious denomination.

Specification

- We estimate a series of fixed-effects models of the following general form:

$$GD_{nrt} = \alpha_0 + \alpha_1 TA_{rt} + \beta X_{nt} + \kappa_n + \phi_r + \lambda_t + \varepsilon_{nrt}$$

- GD_{nrt} distance in religious beliefs for individual n, residing in region r, at survey year t
- TA_{rt} the natural logarithm of international tourist arrivals in region r, at survey year t
- X_{nt} vector of individual-level control variables
- κ_n, ϕ_r, and λ_t denote fixed effects for individual, region, and year, respectively.

	Church attendance	Religion for satisfaction	Importance: religion	How religious are you	Avoid food/ drinks	Wear headscarf
Outcome: intertemporal religiosity distance (GD_{nrt})						
Tourist arrivals (ln)	0.052***	-0.026	-0.084	1.203***	-0.013	1.488***
	(0.014)	(0.057)	(0.065)	(0.344)	(0.242)	(0.436)
Outcome: directional religiosity deviation (ΔR_{nrt})						
Tourist arrivals (ln)	-0.045***	-0.194***	-0.112**	-0.154	-0.069	-0.494*
	(0.012)	(0.047)	(0.051)	(0.275)	(0.248)	(0.269)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	378,720	41,977	58,215	4,595	4,692	1,775

Notes: Standard errors in parentheses clustered at the individual level. Significance level is denoted by *** (1%), ** (5%) and * (10%). All specifications include individual controls, individual fixed effects, region fixed effects, and year fixed effects.

Robustness

Robustness

Our results remain consistent using:

- alternative religious beliefs and other religion-related variables
- alternative distance metric: Canberra distance

$$\frac{|R_{nrt} - \overline{R}_{rt}|}{|R_{nrt}| + |\overline{R}_{rt}|}$$

To conclude

More intense tourism is systematically associated with:

- societies drifting apart in religiosity,
- regional touristic populations moving away from their inherited local norms,
- and individuals becoming more heterogeneous in their religious beliefs with, on average, a tendency toward stronger religiosity in belief and identity, rather than in institutional practice.

Future Steps

Future steps, among other things

- Consider religious (holy) sites across the country
- Explore potential mechanisms using the richness of the dataset

Thank you

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