Does happiness drive tourism decisions?

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Overview

Motivation

- Extensive research on the economic determinants of tourism flows has been published:
  - Estimate the effect of certain economic determinant (relative prices, income, exchange rates,...)
  - Evaluate the impact of certain economic policy (tourist tax, visa policy, events,...)
- Non-economic factors (cultural distance, security threats,...) also revealed as important determinants of the tourist destination choice.
- The present research aims to explore the effect of a non-economic factor, such as happiness, on international tourism movements.

Contribution

Theoretical contribution

Exploring the role of aggregate happiness level as a determinant of tourism flows. This is the first attempt to analyze the impact of happiness on worldwide bilateral tourism movements.

Empirical contribution

The methodology developed by Yotov et al (2016) and Heid et al (2021) is applied to estimate the structural gravity equation by controlling for multilateral resistances terms (MRT) and country-pair fixed effects and including domestic (intra-national) tourism in the dependent variable.

Main tourist destination and source countries

Destination	Arrivals	Origin	Departures
france	212.00	united states	157.87
united states	169.32	china	149.72
china	158.61	germany	108.54
spain	124.46	hong kong	92.21
mexico	96.50	united kingdom	90.57
italy	93.23	mexico	86.28
poland	85.95	italy	61.19
hong kong	65.15	poland	48.60
croatia	57.67	france	48.07
hungary	57.67	russia	41.96
turkey	46.11	canada	38.07
united kingdom	40.28	korea, rep.	28.70
germany	38.88	ukraine	27.98
thailand	38.18	saudi arabia	27.43
czech republic	36.27	india	26.30
greece	33.07	switzerland	24.57
canada	31.27	hungary	22.81
japan	31.19	spain	22.29
austria	30.82	romania	21.04
denmark	30.80	netherlands	20.87

Average international tourist arrivals 2005-2019

Legend:
- [0.02,0.80]
- (0.80,1.97]
- (1.97,4.93]
- (4.93,12.24]
- (12.24,198.54]
- No data
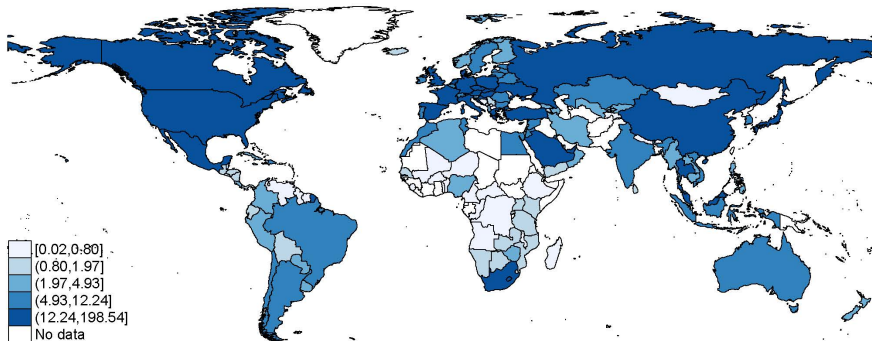
Country	Value	Country	Value	Country	Value
Denmark	7.69	El Salvador	5.99	Tajikistan	4.91
Finland	7.57	Poland	5.91	North Macedonia	4.90
Switzerland	7.55	Korea, Rep.	5.88	South Africa	4.87
Norway	7.54	Mauritius	5.84	Iran	4.86
Netherlands	7.46	Malaysia	5.80	Tunisia	4.76
Iceland	7.43	Uzbekistan	5.79	Gambia, The	4.73
Canada	7.40	Lithuania	5.79	Ukraine	4.73
Sweden	7.37	Kazakhstan	5.78	Nepal	4.69
New Zealand	7.31	Ecuador	5.77	Mozambique	4.68
Australia	7.29	Bolivia	5.75	Namibia	4.63
Austria	7.24	Jamaica	5.70	Cameroon	4.58
Israel	7.21	Nicaragua	5.63	Egypt	4.53
Costa Rica	7.18	Moldova	5.60	Zambia	4.53
United States	7.09	Peru	5.59	Eswatini	4.49
Ireland	7.07	Belarus	5.57	India	4.49
Luxembourg	7.05	Estonia	5.57	Bulgaria	4.48
Belgium	6.99	Paraguay	5.56	Congo, Dem. Rep.	4.47
United Kingdom	6.93	Croatia	5.55	Senegal	4.44
Oman	6.85	Greece	5.53	Armenia	4.44
United Arab Emirates	6.83	Russian Fed.	5.53	Angola	4.42
Germany	6.81	Romania	5.53	Myanmar	4.41
Mexico	6.75	Hong Kong	5.46	Kenya	4.39
Panama	6.68	Cuba	5.42	Ethiopia	4.38
France	6.67	Portugal	5.41	Congo, Rep.	4.35
Brazil	6.66	Honduras	5.39	Sri Lanka	4.31
Qatar	6.57	Algeria	5.39	Uganda	4.28
Czech Republic	6.56	Latvia	5.37	Niger	4.25
Saudi Arabia	6.54	Vietnam	5.31	Mali	4.25
Spain	6.51	Jordan	5.30	Cambodia	4.24
Singapore	6.50	Montenegro	5.28	Georgia	4.22
Malta	6.42	Turkey	5.27	Burkina Faso	4.17
Chile	6.37	Hungary	5.25	Sierra Leone	4.11
Argentina	6.34	Indonesia	5.23	Malawi	4.05
Colombia	6.29	Philippines	5.22	Syria	4.02
Trinidad & Tobago	6.28	Dominican Rep.	5.22	Benin	4.02
Kuwait	6.27	Maldives	5.20	Lesotho	4.00
Italy	6.27	Bhutan	5.20	Botswana	4.00
Suriname	6.27	Serbia	5.18	Madagascar	3.98
Uruguay	6.26	Bosnia & Herzegovina	5.16	Haiti	3.95
Guatemala	6.25	Kyrgyz Republic	5.09	Comoros	3.94
Belize	6.20	Morocco	5.04	Zimbabwe	3.93
Venezuela, Rb	6.12	China	5.00	Yemen, Rep.	3.91
Thailand	6.10	Albania	4.99	Tanzania	3.69
Cyprus	6.09	Lebanon	4.98	Rwanda	3.65
Slovak Rep.	6.02	Mongolia	4.98	Togo	3.56
Slovenia	6.02	Nigeria	4.97	Central African Rep.	3.51
Japan	6.01	Lao	4.97		
Guyana	5.99	Azerbaijan	4.94		

Average happiness index 2005-2019

Legend:
- [3.3,4.4]
- (4.4,5.5]
- (5.5,6.6]
- (6.6,7.7]
- No data

Literature review
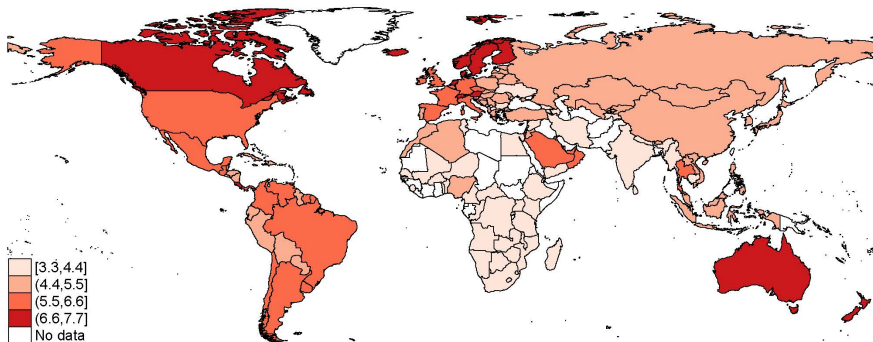
- Some antecedents can be found on the migration literature.
- Hendriks (2015) found that migrants can become happier by migrating but they typically did not reach similar levels of happiness to those of natives.
- Polgreen and Simpson (2011) hold that individual will migrate if the utility of living abroad exceeds the utility of staying home (net of migration costs)
    - They found a U-shaped relationship where emigration rates fall in happiness for relatively unhappy countries, but rise for relatively happy countries.
- Marques et al. (2018) used a gravity model for the migration-happiness nexus.
    - They obtained that the survey-based index is weakly correlated to migration flows.
    - So, they built an alternative ranking based on revealed preferences.

- The literature on the effect of happiness on tourism flows is scarce.
- Gholipour et al. (2016) investigate if the happiness level of a country attracts more tourists and generates higher tourism revenues.
    - For a sample of 63 countries found that tourists prefer to travel to, and expend more money in happier destinations.
- Huang and Wei (2018) and Huang et al (2020) study travel motivations for Chinese residents
    - They obtained that the happiness level of the destination positively affects Chinese outbound tourism.
- These previous papers use aggregate data on tourist departures or use China as a case-study.

Contribution to the existing literature

- We test if tourists might prefer travelling to happier destinations since they could attain higher levels of utility using a worldwide database of tourism flows.

- We test for non-linearities on the effect of happiness on tourism as well as for the role of cultural affinity.

- We deal with potential endogeneity and reverse causality.

- We apply the most recent econometric techniques by including multilateral tourism resistances and different proxies of domestic tourism flows.

Model

- We define a standard gravity equation for tourism flows between origin i to destination j:

$$Tou_{ijt} = \psi INTL_{ij} + \alpha' Control_{ij} + \sigma RTA_{ijt} + \lambda_{it} + \lambda_{jt} + e_{ijt} \qquad (1)$$

  - We apply pseudo-posisson maximum likelihood (PPML) estimator developed by Santos-Silva and Tenreyro (2006, 2010).
  - Multilateral resistance terms are included implying that tourists' decision to visit a certain destination also depends on the remoteness of those destinations.
  - The term $INTL_{ij}$ is a dummy variable for international tourism that takes the value one for international tourism ($i \neq j$) and zero for domestic tourism ($i = j$).

Model

- The traditional way to include MRT is by considering origin-year (λ_{it}) and destination-year (λ_{jt}) fixed effects as well as dyadic fixed effects (λ_{ij}).
  - But any unobservable heterogeneity at the country level that varies with time (GDPpc, instability or happiness) are controlled for and removed from the estimate.
  - To solve this problem we use the methodology proposed by Yotov et al (2016) and Heid et al (2017).

- The authors propose to estimate the following structural gravity model:

$$Tou_{ijt} = \beta(Happy_{jt-1} \times INTL_{ij}) + \sigma RTA_{ijt} + \lambda_{it} + \lambda_{jt} + \lambda_{ij} + e_{ijt} \quad (2)$$

- This methodology requires to consider domestic (in addition to international) tourism flows in the dependent variable which is not straightforward.

- Database covers tourist arrivals from/to 142 destination for the period 2005-2019.
- International tourism data are taken from the World Tourism Organization.
- We consider three alternative measures of domestic tourism using data from the UNWTO:
  - *Guest*: Guests in hotels and similar establishments
  - *Population*: Population
  - *Capacity*: Population*Capacity (bed places per 1000 inhab.)

Summary statistics

Dependent Variable	Correlation		Obs.	Countries	Mean (millions)
Guest	1		1,094	81	18.1
Capacity	0.874	1	1,772	125	27.3
Population	0.608	0.593	2,130	142	45.4
International			134,276	142	1.02
Explanatory Variables	**Obs.**	**Std. Dev.**	**Mean**	**Min**	**Max**
Happy	230,892	5.536	1.121	2.687	8.019
RTA	302,460	0.2468	0.431	0	1
LnDist	294,000	8.642	0.858	1.870	9.894
LP	302,460	0 .099	0.189	0	1
Contig	294,000	0.0219	0.146	0	1
Colony	294,000	0 .0133	0.115	0	1
LnGDPpc	298,910	8.683	1.474	5.455	11.625
RL	302,460	0.0145	0.985	-2.322	2.100
Price	289,564	-1.17e-10	3.753	-11.206	11.206
Terror	302,460	0.150	1.040	0	23.082
Event	302,460	0.003	0.052	0	1
Crisis	262,132	0.567	0.232	0	1

Data description

- Destination controls
  - Data for GDP per capita and relative price competitiveness are obtained from the World Development Indicators (WDI).
  - Regional trade agreements are obtained from Mario Larch's Regional Trade Agreement Database.
  - Quality of the institution (rule of law) is obtained from the Worldwide Governance Indicators (WGI).
  - Data related to terrorism is obtained from the Global Terrorism Database.
  - Data on sport events are compiled from different sources following Fourie and Santana-Gallego (2011).
  - Crisis episodes are obtained from Laeven and Valencia (2012).
- Pair controls
  - Data on distance, border and colonial link are taken from CEPII database.
  - Data on longuistic proximity are obtained from Domestic and international common language database (DICL).

Data description

- The variable *Happy* mesures the overall (subjective) level of happiness of a country.
  - This variable is proxied by life ladder and it is taken from the World Happiness Report (WHR)
  - The survey measure of this subjective well-being (SWB) where respondents need to think of a ladder, with the best possible life for them being a 10, and the worst possible life being a 0.
  - They are then asked to rate their own current lives on that 0 to 10 scale.
  - Then, the national average response is presented for each country.
- Previous studies use data from the World Values Survey (WVS) which provides asimilar index of happiness as the WHR but data are presented in five years waves while the WHS reports yearly data.

Endogeneity

- Previous papers have addressed the issue of how travelling enhances tourists' happiness and life satisfaction. Two potential sources of endogeneity might exists:
    - Endogeneity due to omitted variables: (i) Including country pair fixed effects in addition to the MRT help to reduce the bias (Baier and Bergstrand, 2007; Yotov et al., 2017). (ii) The test by Oster (2019) is applied to evaluate robustness to omitted variable bias and it indicates that there is no reason to suspect that there is a sizable omitted variable bias.
    - Endogeneity due to reverse causality: (i) We use of lagged value and aggregate data for $Happy$. (ii) According to Nizalova and Murtazashvili (2016), the interaction ($Happy_{jt-1} \times INTL_{ij}$) between a exogeneous variable ($INTL_{ij}$) and a potential endogenous variable ($Happy_{jt-1}$) is exogenous. (iii) We estimate the baseline model applying dynamic panel data estimator.

Border effect and domestic tourism

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
RTA_{ijt}	0.933***	0.951***	0.873***	0.894***	0.843***	1.071***	1.293***	1.380***
	(0.0876)	(0.0959)	(0.0780)	(0.0808)	(0.0890)	(0.0923)	(0.0894)	(0.109)
$LnDist_{ij}$	-0.842***	-0.836***	-0.893***	-0.918***	-0.936***	-0.587***	-0.718***	-0.807***
	(0.0572)	(0.0608)	(0.0507)	(0.0580)	(0.0605)	(0.137)	(0.0677)	(0.0687)
LP_{ij}	0.973***	1.017***	0.863***	0.865***	1.031***	1.211***	0.332**	0.400**
	(0.180)	(0.190)	(0.131)	(0.140)	(0.160)	(0.339)	(0.163)	(0.198)
$Contig_{ij}$	0.690***	0.642***	0.792***	0.755***	0.647***	1.035***	1.047***	0.783***
	(0.121)	(0.129)	(0.104)	(0.112)	(0.116)	(0.269)	(0.140)	(0.141)
$Colony_{ij}$	0.406***	0.437***	0.456***	0.395***	0.370***	0.629***	0.302**	0.0578
	(0.132)	(0.136)	(0.123)	(0.119)	(0.125)	(0.172)	(0.148)	(0.171)
$INTL_{ij}$	-2.955***	-2.935***	-3.943***	-3.859***	-3.591***	-4.635***	-4.766***	-4.183***
	(0.178)	(0.185)	(0.158)	(0.161)	(0.176)	(0.268)	(0.180)	(0.186)
Domestic	Guest	Guest	Capacity	Capacity	Capacity	Population	Population	Population
Most populated	Yes	No	Yes	No	No	Yes	No	No
Pair FE	No	No	No	No	No	No	No	No
Origin*year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dest*year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	73,493	68,810	115,935	104,471	68,851	133,763	119,442	68,909

Baseline Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
RTA_{ijt}	0.0877**	0.162***	0.209***	0.264***	0.166***	0.179***	0.126***
	(0.0429)	(0.0614)	(0.0447)	(0.0338)	(0.0624)	(0.0484)	(0.0364)
$Happy_{jt-1}$	0.0113						
	(0.0143)						
$Happy_{jt-1} \times INTL_{ij}$		-0.0348	0.124***	0.104***	-0.0764***	0.127***	0.132***
		(0.0253)	(0.0255)	(0.0327)	(0.0286)	(0.0276)	(0.0241)
Domestic tourism	No	Guests	Capacity	Population	Guests	Capacity	Population
Globalization	No	No	No	No	Yes	Yes	Yes
Pair FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Origin*year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dest*year FE	No	Yes	Yes	Yes	Yes	Yes	Yes
Observations	84,613	59,437	88,806	102,646	59,437	88,806	102,646

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
RTA_{ijt}	0.172***	0.186***	0.133***	0.158***	0.176***	0.122***	0.306***
	(0.0629)	(0.0480)	(0.0363)	(0.0568)	(0.0460)	(0.0342)	(0.0223)
$LnTou_{jt-1}$							0.855***
							(0.00325)
$Happy_{jt-1}$							0.0263***
							(0.00652)
$Happy_{jt-1} \times INTL_{ij}$	0.348	0.931***	0.692***	-0.178***	0.0788**	0.0652**	
	(0.382)	(0.287)	(0.229)	(0.0405)	(0.0378)	(0.0301)	
$Happy^2_{jt-1} \times INTL_{ij}$	-0.0351	-0.0692***	-0.0482**				
	(0.0305)	(0.0233)	(0.0188)				
$Happy_{jt-1} \times INTL_{ij} \times LP_{ij}$				0.320***	0.137*	0.208***	
				(0.101)	(0.0827)	(0.0714)	
Globalization	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Domestic tourism	Guests	Capacity	Population	Guests	Capacity	Population	No
Pair FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Origin*year FE	Yes	Yes	Yes	Yes	Yes	Yes	No
Dest*year FE	Yes	Yes	Yes	Yes	Yes	Yes	No
Method	PPML	PPML	PPML	PPML	PPML	PPML	GMM
Maximum	4.96	6.73	7.18				
Observations	59,437	88,806	102,646	59,437	88,806	102,646	81,846

Conclusions

- Happiness matters to explain tourism flows and results are sensitive to the proxy of domestic tourism considered.
- We find evidence of a inverted U-shaped for the happiness level at the destination country:
  - The turning point on the positive effect of happiness on tourism is around 6.73–7.18.
  - Tourists value a relatively high level of happiness at destination (might associate happiness with quality of life).
  - After a certain level is reached, it could be sufficient for tourists.
- The influence of happiness on tourism decreases when the cultural distance increases.
  - Cultural affinity facilitates cross-cultural communication, and so it is easier for tourists to perceive and interpret the happiness level at the destination.