

**Research article**

**A new strategy for measuring tourism demand features**

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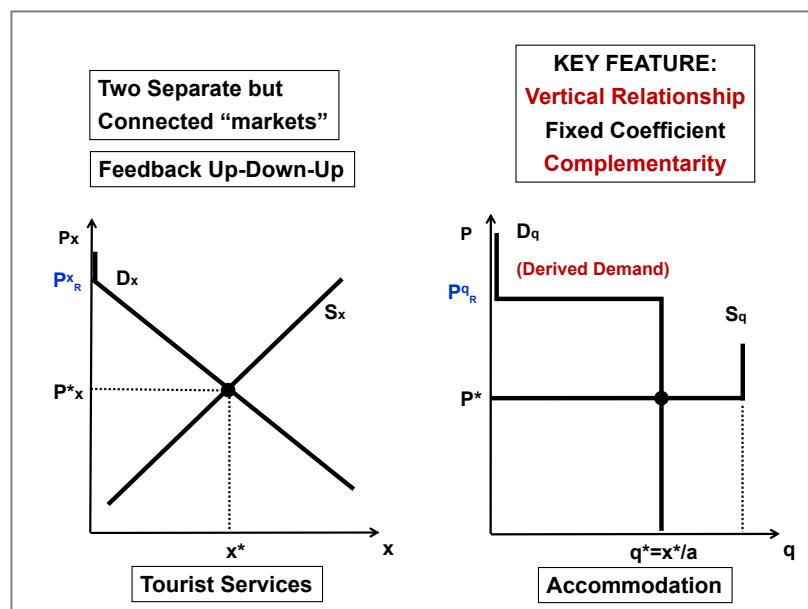
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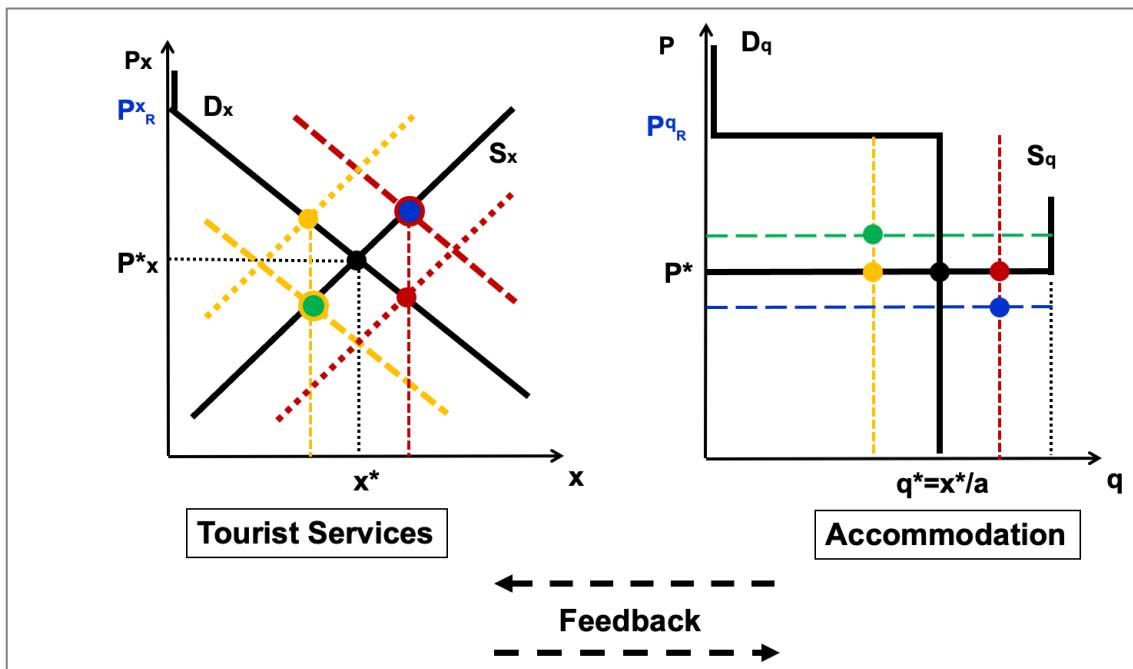
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**Supplementary**

**Appendix**



**Figure A.1.** The diagrammatic representation of the two tourism sub-market.



**Figure A.2.** The diagrammatic representation of interdependencies and comparative statics.

**Table A.1.** Data sources. Inbound tourism.

	AUSTRALIA	CANADA	SPAIN	U.S.
Accommodation	Total overnights Units: Thousands Period: 2008–2019 Source: UNWTO Period: 2005–2007 Number of arrivals Source: The World Bank	Total overnights Units: Thousands Period: 1995–2019 Source: UNWTO	Total overnights Units: Thousands Period: 2000–2019 Source: UNWTO	Overnights in hotels and similar establishments Units: Thousands Period: 1997–2019 Source: UNWTO Period: 1996 Number of arrivals Source: The World Bank
Tourism Expenditure	Expenditure Inbound Units: US\$ Millions Period: 1995–2019 Source: UNWTO Total international tourism consumption Units: Chain volume measure (2020–2021) Period: 2005–2019 Source: ABS	Expenditure Inbound Units: US\$ Millions Period: 1995–2011 Source: UNWTO Foreign demand Units: Millions of \$, 2012 constant prices Period: 1995–2019 Source: Statistics Canada	Expenditure Inbound Units: US\$ Millions Period: 1995–1998 Source: UNWTO Incoming tourist consumption Units: Millions of € Period: 2000–2019 Source: INE International tourist expenditure Units: Millions of € Period: 2009–2015 Source: EGATUR, Turespaña	Expenditure Inbound Units: US\$ Millions Period: 1995–2019 Source: UNWTO Total demand by Nonresidents Units: Millions of \$ Period: 1998–2019 Source: BEA
Passenger Transport Expenditure	Units: US\$ Millions Period: 1995–2019 Source: UNWTO	Units: US\$ Millions Period: 1995–2011 Source: UNWTO Units: Millions of \$, 2012 constant prices Period: 1995–2019 Source: Statistics Canada	Units: US\$ Millions Period: 1995–1998 Source: UNWTO Transport of passengers Units: Millions of € Period: 2000–2019 Source: INE	Units: US\$ Millions Period: 1995–2019 Source: UNWTO Passenger transportation services (nonresidents) Units: Millions of \$ Period: 1996–2019 Source: BEA
Accommodation Expenditure	Units: Chain volume measure (2020–2021) Period: 2005–2019 Source: ABS	Units: Millions of \$, 2012 constant prices Period: 1995–2019 Source: Statistics Canada	Accommodation services Units: Millions of € Period: 2000–2019 Source: INE International tourist expenditure Units: Millions of € Period: 2009–2015 Source: EGATUR, Turespaña	Traveler accommodations (nonresidents) Units: Millions of \$ Period: 1996–2019 Source: BEA
Prices Index	Consumer Price Index Period: 2005–2019 Source: The World Bank	Consumer Price Index (base 2012) Period: 1995–2019 Source: The World Bank	Consumer Price Index Period: 2000–2019 Source: The World Bank	Consumer Price Index Period: 1996–2019 Source: The World Bank

We obtain information about inbound tourism from The World Tourism Organization (UNWTO), which covers the activities of non-resident visitors within the country of reference on an inbound

tourism trip. This information is available from the UNWTO website at <https://www.unwto.org/tourism-statistics/key-tourism-statistics>.

When data are not available from UNWTO, we use information from the national accounts of each country, namely The Tourism Satellite Account (TSA). The TSA includes information from both the demand and supply sides of the economy. We are interested in data from the demand side, specifically inbound tourism spending on lodging and transportation for each country considered.

Additionally, we use information on prices from The World Bank databank, namely the Consumer Price Index (CPI), available at <https://data.worldbank.org/indicator/FP.CPI.TOTL>.

The country-specific sources are as follows:

(1) For Australia, the Tourism Satellite Account is used to obtain the series of expenditure on accommodation. The sample period for Australia is 2005–2019 because TSA data is only available for these years in the Australian National Accounts, Australian Bureau of Statistics (ABS), <https://www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-tourism-satellite-account>.

To approximate the number of overnight stays from 2005 to 2007, we use information on overnights (or “guest nights”) from UNWTO and the number of international tourist arrivals from the World Development Indicators in The World Bank databank. Available at <https://data.worldbank.org/indicator/ST.INT.ARVL>.

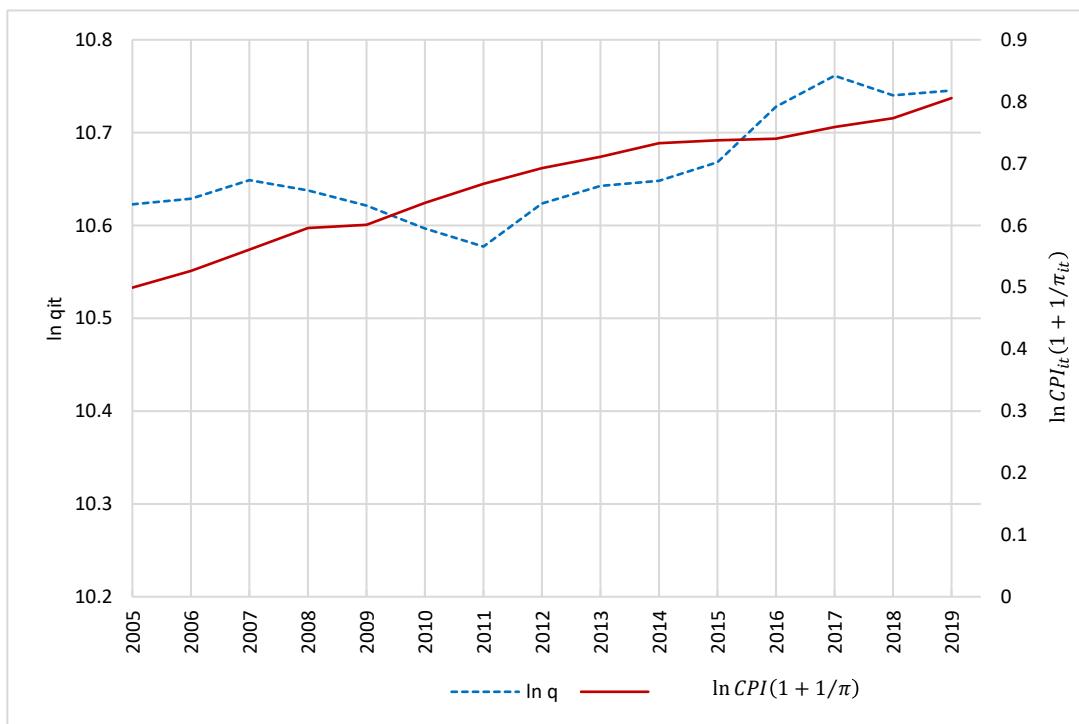
(2) For Canada, expenditure data from Tourism Demand in Canada, Statistics Canada 1995–2019, have been used. In particular Table 36-10-0230-01 available at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610023001>.

(3) For Spain, the expenditure series are obtained from the Tourism Satellite Account of Spain from the Spanish Statistical Office, INE. These data are available on its website at [https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica\\_C&cid=1254736169169&menu=resultados&idp=1254735576581](https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736169169&menu=resultados&idp=1254735576581).

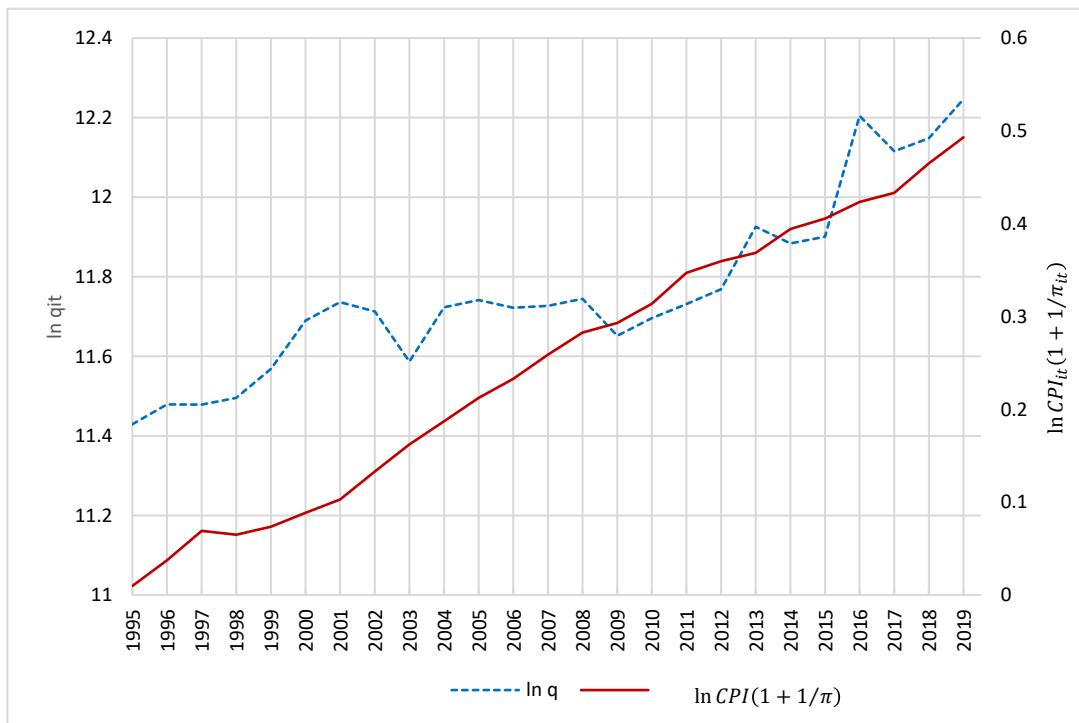
(4) For the US, the expenditure series used are from the Tourism Satellite Account for the period 1998–2019, provided by the Bureau of Economic Analysis (BEA). The data can be accessed from the BEA’s website

<https://www.bea.gov/data/special-topics/travel-and-tourism/tourism-satellite-accounts-data-sheets>. For the period 1996–1997, the information used was obtained from “U.S. Travel and Tourism Satellite Accounts for 1996 and 1997”, Survey of Current Business, July 2000, Volume 80, number 7. Bureau of Economic Analysis.

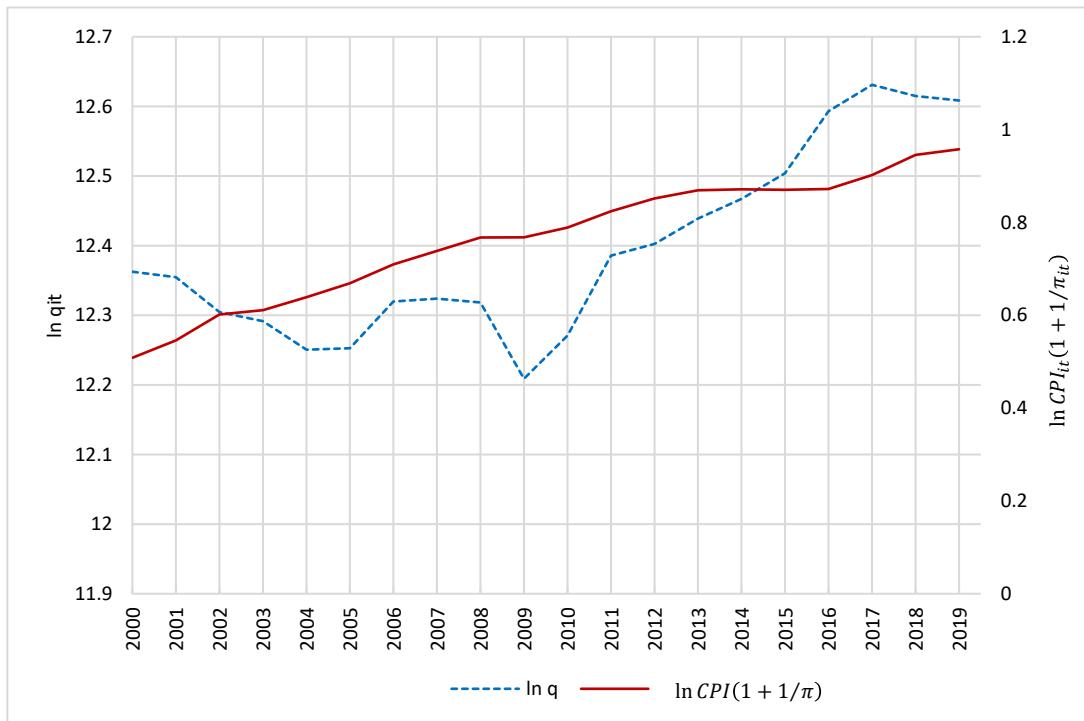
Finally, to approximate the number of overnight stays in 1996, we use information on overnight stays (or “guest nights”) from the World Tourism Organization (UNWTO) and the number of international tourist arrivals from the World Development Indicators, as recorded in The World Bank databank available at <https://data.worldbank.org/indicator/ST.INT.ARVL>.



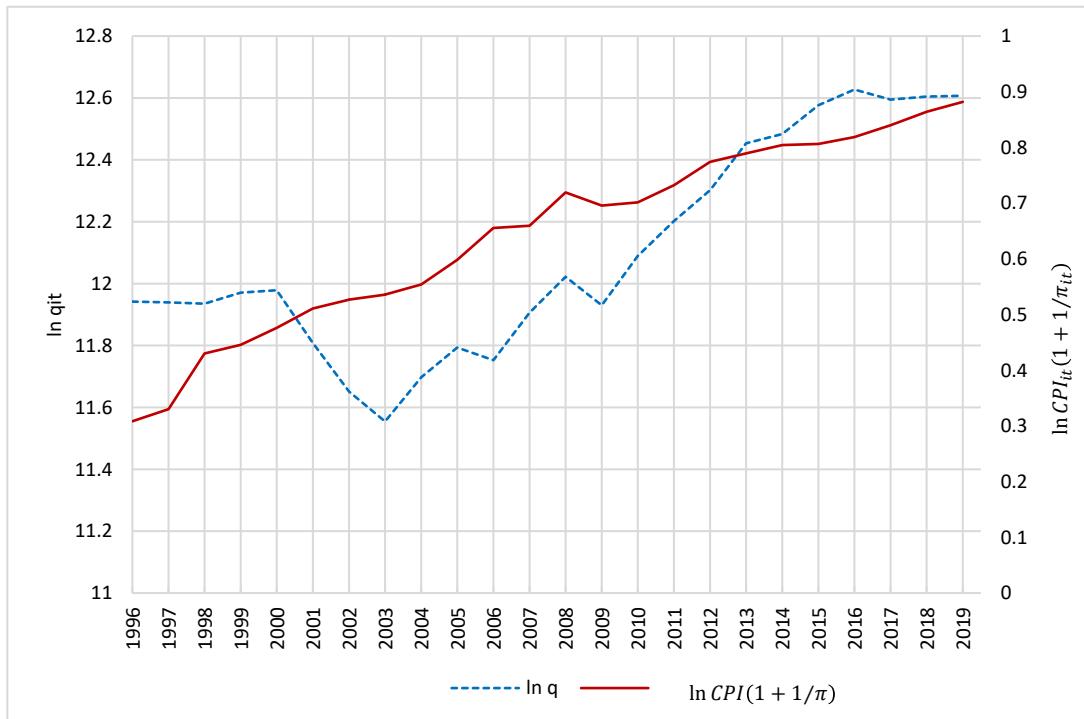
**Figure A.3.** Australian series.



**Figure A.4.** Canadian series.



**Figure A.5.** Spanish series.



**Figure A.6.** U.S. series.

Source: Own elaboration from statistical information Table A.1.

**Table A.2.** Main descriptive statistics.

Variable	Obs.	Mean	Std. dev.	Min.	Max.
$\ln q_{it}$ Australia	15	10.6594	0.0571	10.5772	10.7613
$\ln q_{it}$ Canada	25	11.7643	0.2241	11.4293	12.2463
$\ln q_{it}$ Spain	20	12.3952	0.1332	12.2088	12.6310
$\ln q_{it}$ U.S.	24	12.1008	0.3443	11.5544	12.6272
$\ln CPI_{it}(1 + 1/\pi_{it})$ Australia	15	0.6693	0.0947	0.4995	0.8057
$\ln CPI_{it}(1 + 1/\pi_{it})$ Canada	25	0.2484	0.1489	0.0097	0.4930
$\ln CPI_{it}(1 + 1/\pi_{it})$ Spain	20	0.7656	0.1333	0.5084	0.9577
$\ln CPI_{it}(1 + 1/\pi_{it})$ U.S.	24	0.64408	0.1696	0.3084	0.8818



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